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ABSTRACT

A presentation paper examines the planning, coordination, design, and phasing of construction required for a new 340,000 sq.ft. high school (Chantilly High School, Fairfax, Virginia) plus adding 46,000 sq. ft. to the facility while keeping the educational program for 2,100 students active. The project's scope is outlined, followed by the design coordination and approval process, construction phasing and scheduling, contract award, and the construction process. Attachments provide the existing and new building floor plans and detail each of the paper's main discussions. (GR)

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ED 436 080

CEFPI - 1991 CONVENTION

MINI SESSION PRESENTATION

ON

FAIRFAX COUNTY PUBLIC SCHOOLS

RENEWAL OF CHANTILLY HIGH SCHOOL

PRESENTED BY

DEPARTMENT OF FACILITIES SERVICES

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OFFICE OF DESIGN AND CONSTRUCTION SERVICES

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MIKE ECKHOFF, COORDINATOR OF DESIGN

EF 005 521

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MINI-SESSION OUTLINE

FOR

FAIRFAX COUNTY PUBLIC SCHOOLS

CHANTILLY HIGH SCHOOL RENEWAL

* A presentation of the planning, coordination, design, and phasing of construction required to renew a 340,000 sq. ft. high school plus adding 46,000 sq. ft. to the facility while keeping the educational program for 2,100 students active. This 16.5 million dollar project is currently under construction and real time problems and solutions will be discussed by the presenters.

* Renewal Objective

  - How Fairfax County Public Schools' Renewal Program Works

* Project Scope

  - Building Size

  - New Additions

  - Costs

* Design Coordination and Approval Process

  - Architect Design/Schedule

  - Owner Review

  - Coordination of Design

    Principal

    Staff

    Community

    Department of Instructional Services

  - Code Authorities Approvals

* Construction Phasing and Scheduling

  - School Program Coordination
  - Physical Capabilities of Contractor
  - Owner Provided Equipment

* Contract Award

  - Pre-qualification of Bidders
  - Bid Package
  - Mandatory Pre-bid Meeting with Bidders

* Construction Process

  - Temporary Classrooms
  - Temporary Parking
  - Vacating Areas/Moving Lockers
  - Safety
  - Asbestos Removal
  - Phase 1 and 1-B Results
  - Problems/Success Initial Phases

CHANTILLY HIGH SCHOOL RENEWAL

Renewal Objective

Our system has over 200 buildings housing students and administrators all of which are continually deteriorating through use and age. The objective of the School Board is to renew these buildings on a 20 - 30 year schedule to revitalize the structure and its capability to conduct the educational program.

The renewal of schools in the older portions of the County also improves the standards of these communities thereby keeping property values up.

Failure to renew facilities on a timely schedule will cause the facility to deteriorate to a point where it would be necessary to demolish the building and construct a new building which would be much more expensive.

Project Scope

Attachment (1) of the handout shows the existing building which is a steel frame two-story building with tilt up, pre-cast concrete panels for the exterior surface. The interior of the building was mainly an open area divided by demountable partitions which have limited privacy, HVAC, or lighting control. In short, it was an open plan modified in stages which is not currently functioning well.

Attachment (2) of the handout indicates the floor plan for the building after the renewal is complete.

The existing building is 341,436 sq. ft. housing 2,100+ students in grades 9-12. The renewal will add 46,114 sq. ft. of which 24,450 sq. ft. will

contain a special education center for the emotionally disturbed. There will be a large addition at the front of the building to house a new media center along with small additions to support the drama and physical education programs.

The construction award for this project was made on March 31, 1991, in the amount of $16,487,000. The total project cost with all fees, contingencies equipment, and asbestos removal is estimated to be $20,986,00 by the time the project is to be completed on December 1, 1993.

Design Coordination and Approval Process

The design contract for this project was awarded to the firm of Strang and Samaha, AIA of Fairfax, Virginia on December 15, 1988. The original schedule required a complete package ready for permit submittal by July 2, 1991. The decision to add the Emotionally Disturbed Center to the project in the spring of 1990 resulted in a revised design completion schedule of December 1990.

The basic direction given to the architect for the design of the renewal is shown in Attachment (3) which is a generic direction given on all intermediate or high school renewal projects.

The owner review schedule is an on-going process through the design with formal submissions at the schematic design, design development, and 30, 60 and 100% of the construction document phase.

Coordination of design with the school principal, staff, community, and the central office curriculum staff is essential. The majority of this coordination is completed during the schematic design phase through direct meetings listening to all suggestions and responding either verbally at the meetings or in writing to each group. After agreement is reached

on building function space size and spacial relationships, the process can move to design development where changes are minor and input is restricted to a few school and central office educational program people.

The design architects seldom realize that the schematic design phase for public school projects is such a time consuming and costly process, but without this investment of time and money, the project is doomed to failure as a success in the eyes of the school staff and community.

Construction Phasing and Scheduling

The first consideration of this project or any other renewal project conducted while the school is occupied is to be sure the educational program is provided the necessary facilities to continue conducting a quality education program. This is why the primary coordination for this item is with the principal and his or her staff. This effort requires that all parties work very closely, always keeping in mind both the renewal objective and the needs of the teaching staff. It took multiple scenarios and real understanding of the needs of educators and the contractor before agreement was reached.

The phasing plan that was adopted (see Attachment 4) required that 20 temporary classrooms be set up before the first phase could be initiated. The location for these units needed to be adjacent to the building to ease class changes so the student parking area was chosen for these classrooms. This move required that the additional parking areas provided under the contract were moved up to the first phase. This action, along with a temporary parking area constructed on vacant property across the road owned by the Recreation Department,

resulted in acceptance of the temporary classroom set up by the school staff and students. This result is a typical example of how the phasing schedule was worked out but this first step established a feeling of trust and confidence between the school and the construction staffs which is essential to a successful project.

The construction phasing of a project of this magnitude has to be completed prior to the start of the construction drawing phase. This is necessary to design the features into the project to keep all required areas functioning as adjacent areas go through the renewal process. This includes change overs of mechanical and electrical systems, along with life safety systems.

Another important factor to consider when phasing a project is to determine just what the capabilities of the local contractors are and don't ask them to do the impossible. A few of the other items to consider while doing your phasing schedule are:

* Weather
* Equipment delivery
* Long lead items
* Do you require double shifts
* Inspection requirements

Contract Award

The scheduling and phasing of this project required that the contractors allowed to bid on it had to be pre-qualified. Attachment (5) indicates the process used on this project to pre-qualify the bidders. The combination of the current economic condition and public procurement requirements most likely would have made the project impossible if prequalification was not used.

Attachment (6) is the instructions to bidders on this project. You will note that a mandatory pre-bid meeting was conducted on this project. This meeting included a walk-thru of the entire building, pointing out expected problem areas.

Safety is a very important part of any construction project but it becomes doubly important when you are doing a renewal project in an occupied building. Safety procedures for this project were outlined under paragraph 4.01 of Attachment (4). The safety procedures are continually reviewed at each of the weekly progress meetings. In addition to these procedures, our school Risk Management Office conducts periodic tests within the areas being worked on and the adjacent occupied areas to check for possible problems with the air quality. See Attachment (7) for a sample of the readings taken.

Asbestos Removal

The removal of asbestos was contracted for separately the summer before the construction contract was awarded. This action is taken on all of of our major construction projects to preclude the conflict of asbestos in the way of the construction portion of the project.

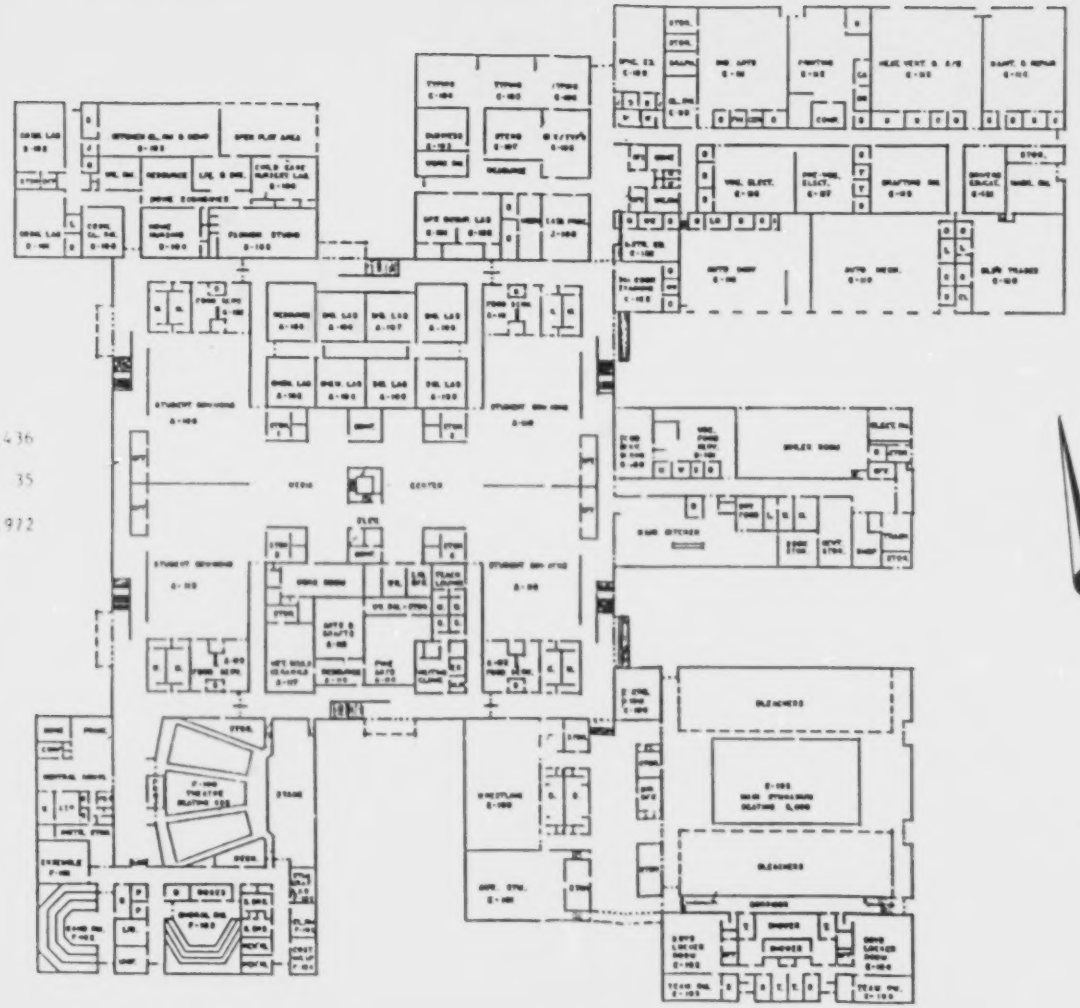
PHase 1 and 1-B Results and Problems

We are happy to say that the first phases of this contract have been completed on time not without problems such as the destruction of a major electrical panel in the kitchen area less than two weeks before school opening, but we had a new panel flown in and installed with only a week of providing bag lunches.

ATTACHMENT I

EXISTING BUILDING FLOOR PLAN

TOTAL AREA	341,436
SITE ACRES	35
BUILT	1972



CHANTILLY HIGH SCHOOL

FIRST FLOOR PLAN

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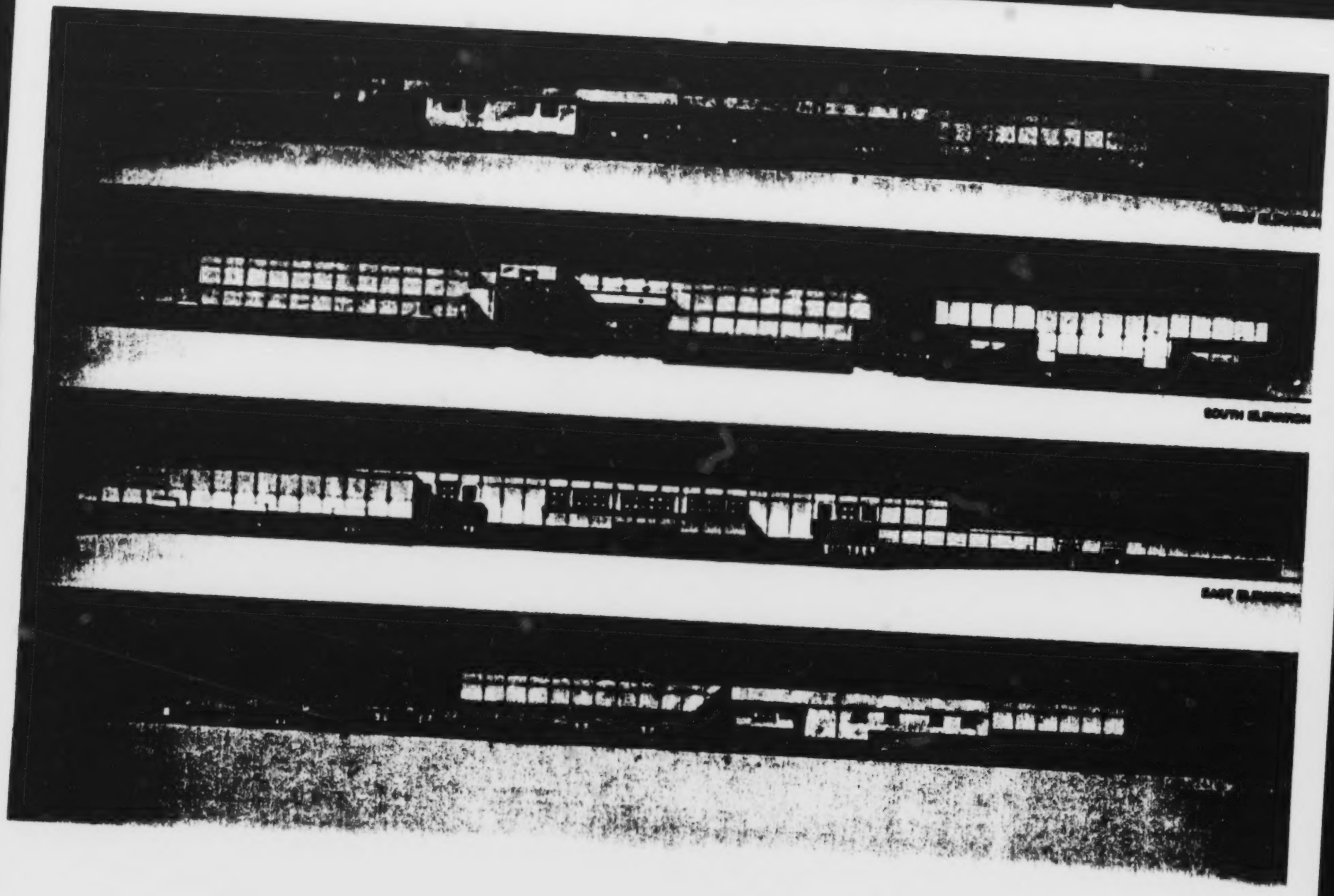
ATTACHMENT 2

NEW BUILDING FLOOR PLAN



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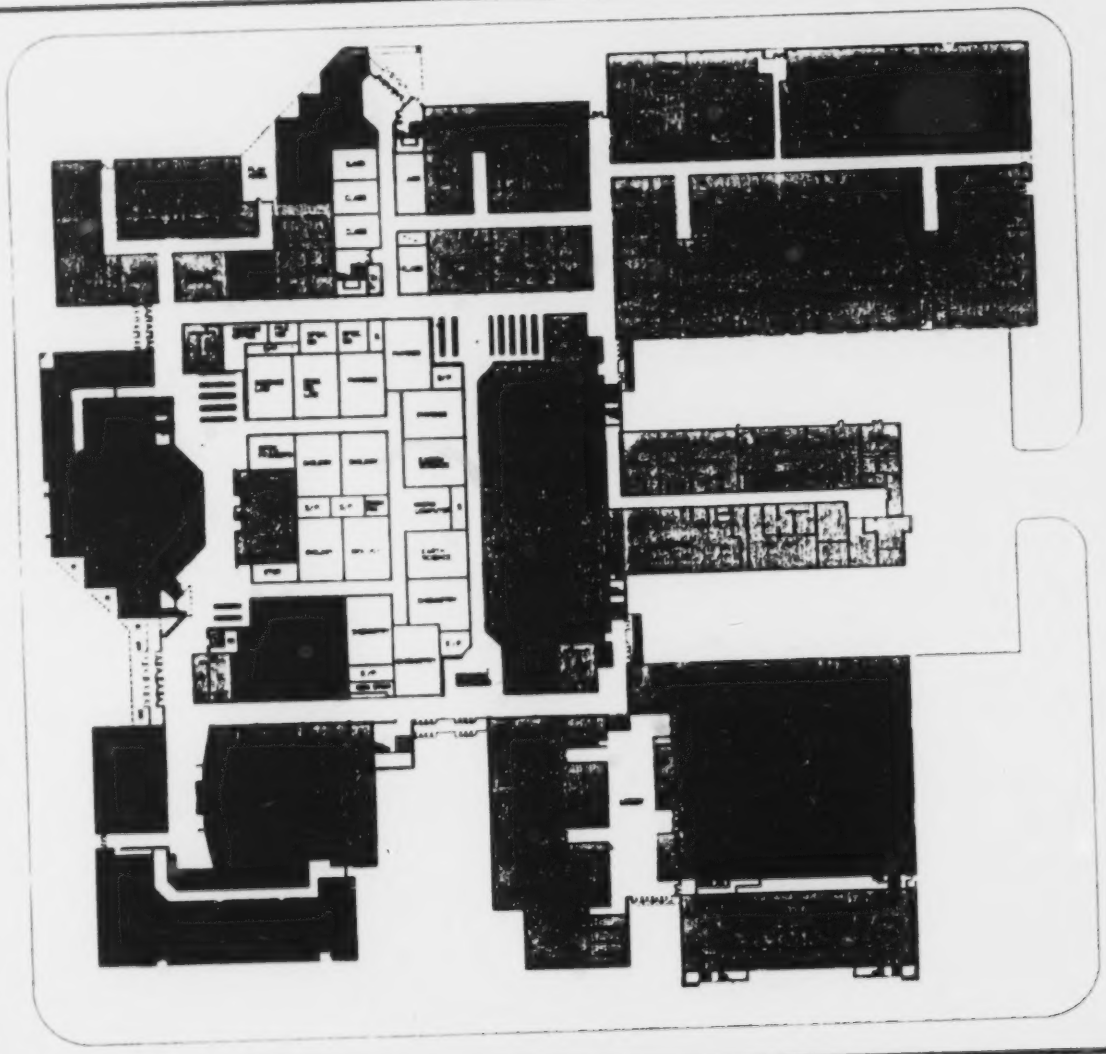
Strang and Samaha, AIA
architects and planners



LOWER LEVEL PLAN

CHANTILLY HIGH SCHOOL

Strang and Samaha AIA
architects · planners

SCHEMATIC

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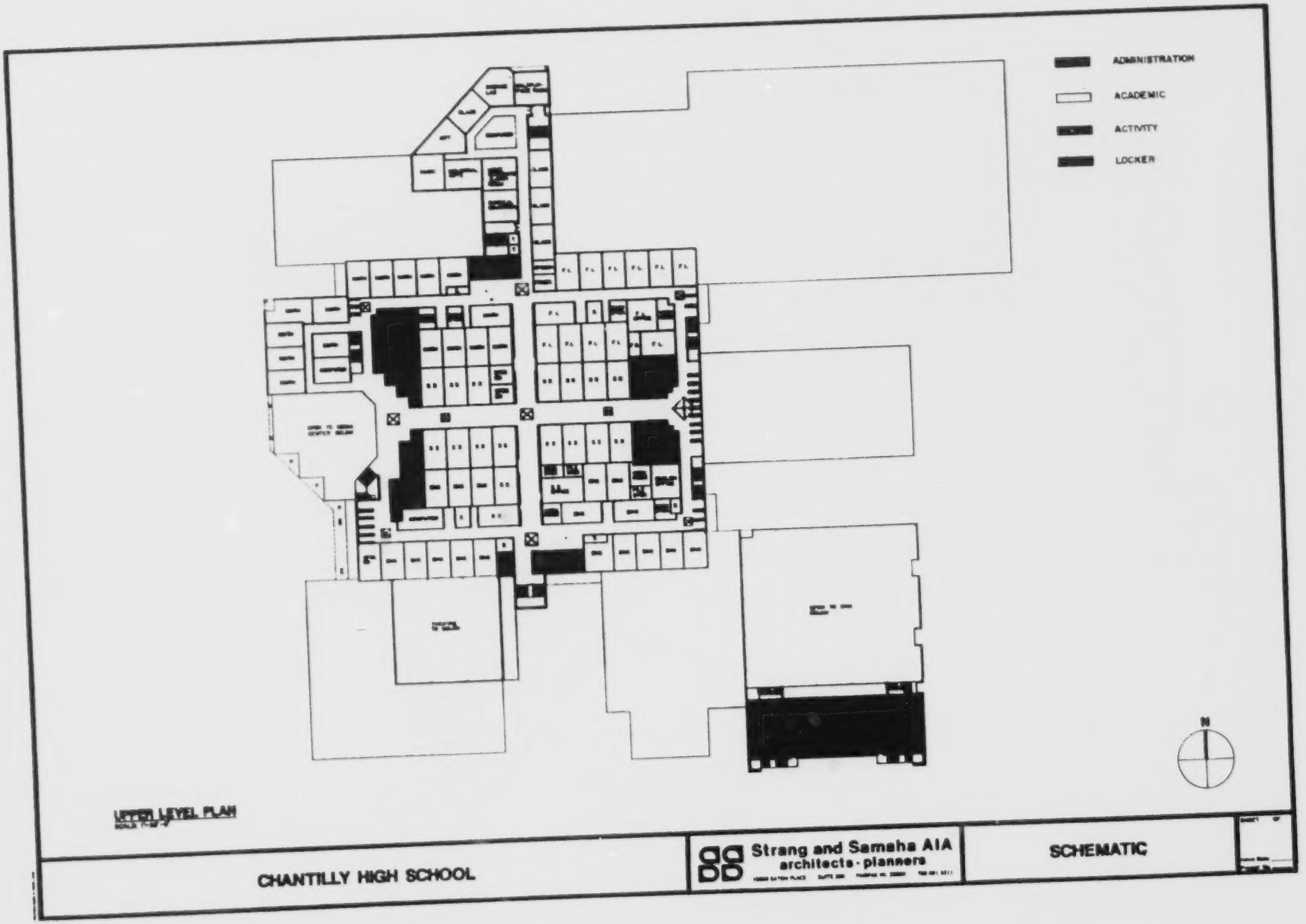

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ATTACHMENT 3

GENERAL SCOPE OF WORK FOR HIGH SCHOOL RENEWAL AND ADDITION PROJECTS

GENERAL SCOPE OF WORK FOR HIGH SCHOOL RENEWAL & ADDITION

General:

1. Renew, upgrade existing facilities such as roof, mechanical, and electrical systems to provide a 20-year life expectancy.

2. Meet with principal and staff for their input and "wish list" within budget. Coordinate items listed by Maintenance.

3. Develop a detailed scope of work that meets defined budget for review by Design and Construction.

Site:

1. Check all asphalt paving conditions and repair, cap where required. Restrip parking and repaint game layouts on paved play area.

2. Check all concrete walks, curb and gutter condition and repair where required.

3. Provide handicapped curb cuts.

4. Evaluate existing parking conditions. Expand parking if additional spaces are deemed necessary.

5. Evaluate site lighting and replace upgrade fixtures where required.

SCOPE OF WORK FOR RENEWAL OF HIGH SCHOOLS/ADDITION

Mechanical

1. Upgrade the entire heating and cooling system to provide a 20-year life expectancy.

2. Completely A/C the entire building. (Some areas may already have A/C). Replace existing A/C systems.

3. A/C design shall be based on ASHRAE standards, 25 students per classroom and minimum outside air per BOCA code. Design heat to 72°F and cool to 75°F.

4. Inspect boilers, associated pumps, trims, etc. Recommend repairs (test boilers). Convert to dual fuel (IRI) oil/gas burners.

5. Field survey entire building to determine existing conditions and provide recommendations. Also review maintenance "wish list".

6. Submit future and existing heating load to Washington Gas.

7. Provide additional ventilation for specialized spaces. (Kiln, science/prep area, dark rooms, art rooms, shops, etc.)

8. Submit energy envelope calculations. (New construction)

9. Check existing roof top equipment to remain, repair or replace.

10. Provide DDC/pneumatic temperature control system. (Base bid) Per FCPS design criteria.

11. Replace existing fuel oil system complete including piping per FCPS design criteria.

12. Replace all heating or cooling system valves.

13. Provide isolation valves for project phasing and for any branch lines serving 3 units or more.

14. Coordinate for provisions for screening rooftop A/C equipment.

15. Design shall comply with FCPS design criteria, guide specifications and typical details furnished.

GENERAL SCOPE OF WORK FOR HIGH SCHOOL RENEWAL & ADDITION

Electrical

1. New electric services as required.

2. Upgrade lighting in accordance with IES standards and Virginia Department of Education.

3. Upgrade TV system for cable, new antennas, head-end equipment. Provide TV outlets in C.R., gym, lunch room (if not already there).

4. Add electric outlets (minimum 4 per C.R.).

5. Upgrade PA console and auxiliary sound systems.

6. New fire alarm system with graphic annunciator panel. Provide smoke detectors in corridors, library, office, cafeteria. Provide heat detectors in janitor's closet, boiler room, kitchen, etc.

7. Provide security system on all exterior doors, administration, media, kitchen, cafeteria, computer rooms.

8. Upgrade program clock system.

9. Provide power for relocated art kiln.

10. Provide all additional power for A/C and elevator.

11. Connect telephone, sound system, fire alarm, emergency lights, exit lights, security system, light at sound console to emergency generator (verify capacity).

12. Provide contactor control on exterior lighting for future connection to CCMS.

13. Provide central contactor control for ventilation equipment for connection to CCMS.

14. Replace/modify existing power distribution and branch circuit wiring.

15. Evaluate, modify, upgrade site and security lighting.

GENERAL SCOPE OF WORK FOR HIGH SCHOOL RENEWAL & ADDITION

Architectural:

1. There will be addition/additions totaling 15,000 sq ft maximum. The space required, if any, will be determined during the development of the detailed scope of work.

2. Meet with Fire Marshal to determine extent of Fire Alarm System, smoke and heat detectors, sprinklers, fire doors, fire separations, and stairway enclosures.

3. Provide handicap facilities throughout. Including interior and exterior ramps, elevators, handicapped toilet stalls, handicapped EWC, etc.

4. Provide extra storage is possible.

5. Renovate library and expand if necessary.

6. Renovate main office/guidance department.

7. Renovate Science laboratories.

8. Renovate Art labs.

9. Renovate Industrial Arts shops and Home Economics labs.

10. Provide termite control for any new construction.

11. Increase size of mail box in main office for additional staffing.

12. Check condition of existing roof. (See roof report.) Re-roof if required. Provide additional roof drains where ponding exists.

13. Increase building envelope insulation for energy conservation; i.e., insulation and "Insulcrete" over glass block.

14. Replace or refinish (depending on condition) all interior and exterior doors. Provide new panic hardware on all doors with same. (Use rim device only.) Weatherstrip all exterior doors.

15. Provide security in all exterior doors, administration, media, kitchen, dry food storage, computer rooms, science labs and prep/storage rooms.

16. Replace all interior door glass, side lights, etc. with 3/16" laminated glass or 1/8" tempered.

17. Replace all exterior windows with insulated glass aluminum frame windows with insulated glass aluminum frame windows.

18. Repaint entire building interior and exterior. Paint site items such as light poles, out-buildings, playground equipment, etc.

19. Provide new acoustical tile ceilings throughout:

    2 x 4 rock face tile - corridors, locker rooms, toilets
    2 x 4 smooth vinyl surface - kitchen
    2 x 4 standard acoustic ceiling entire bldg. except as noted above.
    Remove all class "C" 12 x 12 ceiling tile, wood furring, Kraft-paper faced insulation. Replace insulation with new non-combustible insulation.

20. Recover existing asphalt/VAT tile with new VCT and provide new base (those areas which will not be carpeted). Ramps, stairtreads, and landings shall be raised orbital rubber tile.

21. Carpet administration offices, media center, all classrooms, teacher lounges, and small group spaces. Provide new base throughout.

22. Provide acoustical wall Tectum panels in cafeteria and gym (10' A.F.F. in gym and 7' A.F.F. in cafeteria).

23. Recover chalk and tackboard throughout.

24. Provide electric hand dryers in gang toilets.

25. Provide new solid plastic toilet partitions in all gang toilets. All toilet stalls shall be floor-mounted and overhead-braced.

26. Verify condition of venetian blinds and replace the ones that are damaged, missing, etc.

27. Replace missing or damaged toilet accessories in all toilets both gang and individual.

28. Replace two-compartment sink in kitchen with three-compartment sink with booster heater in one compartment. Survey condition of existing kitchen equipment, replace as required.

29. Provide power for kiln and exhaust fan for kiln ventilation.

30. Recondition and paint all lockers (corridor, gym, etc.). Provide new recessed combination locks.

31. Replace all stage rigging for both lighting and curtains. Provide new curtains.

32. Refurbish/recover auditorium seats.

33. Submit plans and specifications to State for approval and to Design and Construction for review and community/PTA presentation.

SCOPE OF WORK FOR RENEWAL OF HIGH SCHOOLS/ADDITION

Plumbing

1. Provide sprinkler system for the entire building as required by Fire Marshal, per FCPS design criteria. The system shall be totally designed.

2. Survey restrcoms, replace fixtures, accessories and valves as necessary. Replace all flush valves, faucets, water closet seats and bolt cap covers.

3. Provide handicap fixtures in gang toilets, one each floor, per FCPS mounting height standards.

4. All new toilet rooms to have floor drains. Replace missing existing floor drain accessories.

5. Provide tempered hot water, 110°F maximum, to all existing and new sinks. Tempering valves shall be thermostatic and pressure sensitive.

6. Provide separate domestic water heating system (In addition to Boiler System).

7. Replace D.F. with E.W.C. Provide handicapped and standard heights per FCPS mounting height standards.

8. Provide hose bibb at loading dock, if none exists.

9. Add additional roof drains, if necessary. Replace existing roof drains as necessary.

10. Field survey entire building to determine existing conditions and provide recommendations. Also review maintenance "wish list".

11. Replace all valves on domestic water systems. Remove and replace any galvanized steel domestic water piping.

12. Provide isolation valves on branch mains and for project phasing.

13. Modify existing rough-ins for fixture changes, handicapped requirements, FCPS mounting height standards and drinking fountain replacement with E.W.C.

14. New handicapped toilet rooms with single lav. and water closet shall be a minimum of 5'-6" wide.

15. Coordinate rough-ins and flush valves with handicapped grab bars.

16. Replace existing gym locker area shower tempering valve. Survey shower area for shower head and valve replacement.

17. Coordinate with Architect science, chemistry, physics biology, art and dark rooms plumbing fixtures, faucets shall have built-in vacuum breakers, double gas torrets, chemical neutralization, emergency gas shut-off valve at door, underslab gas piping venting, traps and acid waste piping per FCPS details.

INTERMEDIATE AND HIGH SCHOOLS - RENEWAL WITH ADDITIONS

ARCHITECTURAL AND GENERAL REQUIREMENTS

NOTE:

1. AT EACH REVIEW PHASE, PROVIDE FOUR SETS OF DOCUMENTS FOR FAIRFAX COUNTY PUBLIC SCHOOLS.

2. UPDATED COST ESTIMATE FOR EACH PHASE SHALL BE SUBMITTED 2 DAYS BEFORE THE PHASE REVIEW MEETING TO ALLOW ESTIMATOR ACCESS TO MOST CURRENT INFORMATION.

SCHEMATIC PHASE:

1. DEVELOP INITIAL WRITTEN PROGRAM OUTLINING SCOPE OF WORK, AUGMENTED WITH SCHEMATIC DESIGNS AND LAYOUTS AS APPROPRIATE IN ORDER TO DEFINE THE GENERAL PROGRAM. THE GENERAL PROGRAM SHALL BE BASED UPON THE FOLLOWING:

   A. PROGRAM CRITERIA DEVELOPED BY FAIRFAX COUNTY PUBLIC SCHOOLS, DESIGN AND CONSTRUCTION.

   B. CONSTRUCTION BUDGET.

   C. WALK-THRU INSPECTION OF EXISTING FACILITY AND SITE WITH FAIRFAX COUNTY PUBLIC SCHOOLS, DESIGN AND CONSTRUCTION PERSONNEL.

   D. ARCHITECTS FIELD SURVEY TO AUGMENT WALK-THRU INSPECTIONS (MANDATORY).

   E. TOPOGRAPHIC SURVEY.

2. THE GENERAL PROGRAM SHALL BE SUBJECT TO MODIFICATION BASED UPON INPUT FROM THE FOLLOWING:

   A. PRELIMINARY CODE REVIEW MEETING(S) WITH DEM.

   B. PRESENTATION MEETINGS WITH SCHOOL PRINCIPAL AND STAFF, PTA AND FAIRFAX COUNTY PUBLIC SCHOOLS CURRICULUM SPECIALISTS.

   C. FAIRFAX COUNTY PUBLIC SCHOOLS, MAINTENANCE.

3. REFINE THE GENERAL PROGRAM; PROVIDE SCHEMATIC DRAWINGS AND NARRATIVE IN ORDER TO:

   A. IDENTIFY AREAS OF DEMOLITION.

   B. DEFINE AREAS OR EXTENT OF NEW WORK AND RENOVATION.

   C. IDENTIFY THE IMPACT OR RENOVATION ON EXISTING STRUCTURE, EQUIPMENT AND SITE.

   D. INCORPORATE INPUT DESCRIBED IN ITEM (2).

   E. PREPARE PRELIMINARY ESTIMATE.

4. ARCHITECT SHALL MEET WITH FAIRFAX COUNTY PUBLIC SCHOOLS, DESIGN AND CONSTRUCTION TO REVIEW THE REVISED GENERAL PROGRAM. IF COST ESTIMATE IS FOUND TO EXCEED THE ESTABLISHED CONSTRUCTION BUDGET, CHANGES TO THE GENERAL PROGRAM MAY BE MANDATED BY FAIRFAX COUNTY PUBLIC SCHOOLS, DESIGN AND CONSTRUCTION.

DESIGN DEVELOPMENT PHASE (LEADING TO 30% CONSTRUCTION DOCUMENTS)

1. GENERAL REQUIREMENTS

   A. UPDATE COST ESTIMATE.

   B. DEVELOP OUTLINE SPECIFICATION.

   C. ADDRESS REQUIREMENTS FOR PRELIMINARY STATE SUBMITTAL AS SET FORTH IN THE STATE BOARD PLANNING MANUAL, REGULATION 4.4. SUBMISSION SHALL BE MADE AFTER FAIRFAX COUNTY PUBLIC SCHOOLS APPROVAL OF DESIGN DEVELOPMENT.

   D. CIVIL, ARCHITECTURAL AND STRUCTURAL DRAWING. ALL OR A PART OF THIS PACKAGE MAY BE "HARDLINED" ON "BUMWAD" OR A COMBINATION, TOGETHER WITH A WRITTEN NARRATIVE, IF DESIRED.

2. DRAWING REQUIREMENTS

   A. CIVIL DRAWINGS: CIVIL ENGINEER SHALL BEGIN PREPARATION OF SITE PLAN DURING THIS PHASE. PROVIDE PRELIMINARY SITE DRAWING COMPLYING WITH SUBMISSION REQUIREMENTS OF STATE BOARD PLANNING MANUAL.

   B. "LETTERS OF AGREEMENT" SHEET SHOWING DOCUMENTATION OF PRELIMINARY CODE REVIEW MEETING(S), AND FAIRFAX COUNTY PUBLIC SCHOOLS LETTERS OF AGREEMENT WITH CODE AUTHORITIES.

   C. FLOOR PLANS

      1.) REFERENCE PLAN(S) OUTLINING SCOPE AND LIMITS OR DEMOLITION AND NEW WORK. PLAN(S) SHALL SHOW:

         a.) ALL ROOM NAMES (BASED ON EDUCATIONAL PROGRAM REQUIREMENTS, NOT ACTUAL CURRENT USE).

         b.) OCCUPANCY LOADS PER CODE ALLOWABLE AND PER PROGRAM REQUIREMENTS.

         c.) BUILDING AND SITE HANDICAP ACCESSIBILITY FEATURES, SUCH AS ELEVATORS, LIFTS, RAMPS AND TOILET FACILITIES.

         d.) LIFE SAFETY FEATURES SUCH AS AREA LIMITATIONS, FIRE WALL LOCATIONS, EGRESS CAPACITIES OF STAIRS AND DOORWAYS, TRAVEL LENGHTS, RATED WALL OR FLOOR CEILING ASSEMBLIES, AND RATED STAIR ASSEMBLIES.

2.) PRELIMINARY DEMOLITION PLANS (1/8"=1'-0" MINIMUM).

3.) PRELIMINARY NEW WORK PLANS (1/8"=1'-0" MINIMUM).

4.) PRELIMINARY FLOOR PLANS - ADDITION(S) (1/8"=1'-0" MINIMUM) SHOWING OVERALL DIMENSIONS AND ROOM NAMES.

5.) TYPICAL CLASSROOM LAYOUTS (IF INCLUDED IN ADDITION, OR RECONFIGURED FROM EXISTING SPACES).

6.) PRELIMARY EQUIPMENT LAYOUTS FOR SPECIALIZED SPACES (IF INCLUDED IN ADDITION RECONFIGURED FROM EXISTING SPACES OR OTHERWISE MODIFIED AS PART OF WORK SCOPE) SUCH AS:

a.) MEDIA CENTER
b.) GYMNASIUM
c.) KITCHEN/SERVING AREA
d.) CHORAL/BAND ROOMS
e.) ART ROOMS
f.) HOME ECONOMICS
g.) CHEMISTRY, PHYSICS, BIOLOGY LABORATORIES AND PREP ROOMS
h.) BUSINESS CLASSROOMS
i.) INDUSTRIAL ARTS/ VOCATIONAL
j.) TRAINING & LOCKER ROOMS
k.) AUDITORIUM & STAGE
l.) DARK ROOMS

D. ELEVATIONS:

1. SHOW EXISTING CONDITIONS WHERE NECESSARY TO EXPLAIN THE SCOPE OF DEMOLITION NOT SHOWN ON PRELIMINARY DEMOLITION PLANS.

2. NEW WORK, SHOWING SCOPE OF RENOVATION NOT COVERED BY NEW WORK PLANS.

3. ADDITIONS: INDICATE MAJOR DESIGN FEATURES, TYPES OF MATERIALS WHICH SIGNIFICATELY CONTRIBUTE TO DESIGN INTEGRITY, AND OVERALL VERTICAL DIMENSIONS.

E. PRELIMINARY DOOR SCHEDULE INFORMATION: INDICATE NEW DOORS, DOORS TO REMAIN AND LABELED DOOR ASSEMBLIES (BOTH NEW AND EXISTING).

F. PRELIMINARY FINISH SCHEDULE INFORMATION: INDICATE FINISH TYPES FOR WALLS, FLOORS AND CEILING; SHOWING ANY SPECIAL FINISHES REQUIRED FOR SPECIALIZED AREAS.

G. STRUCTURAL DRAWINGS (1/8"=1'-0" MINIMUM):

1. OUTLINE PLANS FOR FOUNDATIONS, FLOOR AND ROOF FRAMING FOR ADDITIONS.

2. PART PLANS OR REFERENCE PLANS SHOWING EXISTING AREAS REQUIRING STRUCTURAL MODIFICATION.

3. SHOW CONFIGURATION OF STRUCTURAL BAYS FOR FLOOR AND ROOF FRAMING; INDICATE SPAN DIRECTION.

H. ARCHITECTURAL DETAILS

1.) PRELIMINARY CROSS SECTIONS AND WALL SECTIONS SHOWING MAJOR CONSTRUCTION FEATURES AND MATERIALS.

3. OUTLINE SPECIFICATIONS:

A. TABLE OF CONTENTS LISTING APPLICABLE SPECIFICATION SECTIONS.

B. SYNOPSIS OF EACH SECTION LISTED IN THE TABLE OF CONTENTS, OUTLINING TYPES OF MATERIALS MAJOR PRODUCTS, EQUIPMENT AND METHODS.

4. UPON APPROVAL BY FAIRFAX COUNTY PUBLIC SCHOOLS, DESIGN AND CONSTRUCTION OF THE DESIGN DEVELOPMENT SUBMITTAL, ARCHITECT SHALL SUBMIT TWO (2) SETS OF PRELIMINARY DRAWINGS AND OUTLINE SPECIFICATIONS TO THE STATE BOARD OF EDUCATION IN ACCORDANCE WITH REGULATION 4.4.

30% CONSTRUCTION DOCUMENTS PHASE

1. GENERAL REQUIREMENTS: PROVIDE "HARDLINED" PROGRESS DOCUMENTS. INCORPORATING INFORMATION AND DATA COMPILED AND PRODUCED DURING THE DESIGN DEVELOPMENT PHASE. INCLUDE THE FOLLOWING:

A. OUTLINE SPECIFICATIONS.

B. UPDATED COST ESTIMATE.

C. CIVIL, ARCHITECTURAL AND STRUCTURAL DRAWINGS.

D. DRAWING SCALES SHALL BE AS NOTED IN DESIGN DEVELOPMENT PHASE.

2. DRAWING REQUIREMENTS:

A. CIVIL DRAWINGS: SHALL CLEARLY SHOW THE SCOPE OF SITE DEMOLITION AND RENOVATION, INCLUDING NEW FEATURES SUCH AS UTILITIES, PAVED AREAS, LANDSCAPING, ETC., AS APPLICABLE. CIVIL DRAWINGS SHALL BE FILED FOR COUNTY REVIEW AS SOON AS POSSIBLE FOLLOWING THE 30% CONSTRUCTION DOCUMENTS PHASE, TO ALLOW SUFFICIENT TIME FOR SUCH REVIEW, AND TO COORDINATE WITH THE PROJECT SCHEDULE FOR PERMIT SUBMISSION OF FINAL CONSTRUCTION DOCUMENTS.

B. COVER SHEET WITH DRAWING INDEX AND CODE DATA.

C. FLOOR PLANS

1. REFERENCE PLANS (DEMOLITION AND NEW WORK).

2. DEMOLITION PLAN(S).

3. NEW WORK PLAN(S).

4. TYPICAL ROOM AND EQUIPMENT LAYOUTS.

D. ELEVATIONS

E. CROSS SECTIONS, WALL SECTIONS AND DETAILS.

F. DOOR AND FINISH SCHEDULES.

G. STRUCTURAL DRAWINGS.

60% CONSTRUCTION DOCUMENTS PHASE

1. GENERAL REQUIREMENTS

A. UPDATED COST ESTIMATE.

B. "ROUGH DRAFT" SPECIFICATION WITH TABLE OF CONTENTS.

C. "HARDLINED" PROGRESS DRAWINGS FOR CIVIL, ARCHITECTURAL AND STRUCTURAL, INCLUDING COVER SHEET AND DRAWING INDEX.

2. SPECIFICATIONS: PROVIDE A DRAFT COPY OF EACH SECTION (DIVISION 0 THRU 14) TO BE INCLUDED IN THE FINAL DOCUMENTS. UPDATE THE TABLE OF CONTENTS AS REQUIRED TO INCLUDE ADDITIONAL SECTIONS.

3. PROGRESS DRAWINGS: INCLUDE THE FOLLOWING:

A. COVER SHEET WITH DRAWING INDEX, BUILDING DATA, ABBREVIATIONS, MATERIALS AND SYMBOLS LISTS AS APPROPRIATE.

B. UPDATE "LETTERS OF AGREEMENT" SHEET IF NECESSARY.

C. FINALIZED OVERALL REFERENCE/LIFE SAFETY PLAN(S).

D. "HARDLINED" ARCHITECTURAL PROGRESS DRAWINGS:

1.) DEMOLITION AND NEW WORK FLOOR PLANS WITH ROUGH, PARTIAL DEMOLITION/NEW WORK NOTES OR OTHER WRITTEN NARRATIVE AUGMENTING OR EXPLAINING THE SCOPE OF WORK; 1/8"=1'-0".

2.) ADDITION PLANS, FULLY OR PARTLY DIMENSIONED; 1/8"=1'-0".

3.) ELEVATIONS, CLEARLY DEMONSTRATING THE SCOPE OF NEW WORK, AND DIFFERENTIATING BETWEEN EXISTING TO REMAIN, EXISTING TO BE ALTERED, AND NEW WORK. 1/16"=1'-0" MINIMUM.

4.) CROSS SECTIONS, WALL SECTIONS AND DETAILS.

5.) DOOR, WINDOW AND FINISH SCHEDULES ON SINGLE SHEET FORMAT.

6.) EQUIPMENT AND FURNISHING PLANS FOR NEW ROOMS IN ADDITION, ROOMS CONFIGURED FROM EXISTING SPACES, OR RENOVATED EXISTING ROOMS, SUCH AS:

a.) TYPICAL CLASSROOM

b.) SPECIALIZED ROOMS AND SPACES LISTED IN PART C (6), DESIGN DEVELOPMENT PHASE.

7.) STRUCTURAL DRAWINGS, INDICATING SIZES/DESIGNATIONS OF STRUCTURAL MEMBERS, REINFORCEMENT SIZE AND CONFIGURATION FOR STRUCTURAL CONCRETE, AND OTHER STRUCTURAL FEATURES FOR MAJOR COMPONENTS OF NEW WORK, ALONG WITH STRUCTURAL MODIFCIATION IN EXISTING SPACES. PROVIDE FOUNDATION DESIGN AND ADDRESS SUBGRADE REQUIREMENTS IF GEOTECHNICAL REPORT HAS BEEN MADE AVAILABLE.

100% CONSTRUCTION DOCUMENTS PHASE

1. GENERAL REQUIREMENTS

   A. FINAL COST ESTIMATE.

   B. COMPLETE CONSTRUCTION SPECIFICATIONS, INCLUDING ALL APPLICABLE SECTIONS FROM DIVISION 0 (INCLUDING BID DOCUMENTS) THROUGH 14.

   C. COMPLETE CIVIL, ARCHITECTURAL AND STRUCTURAL DRAWINGS [PROVIDE STATE PROJECT NUMBER ON ALL SHEETS (C + A + S + P + M + E)].

   D. COMPLY WITH ALL REQUIREMENTS FOR FINAL STATE SUBMISSION IN ACCORDANCE WITH THE STATE BOARD PLANNING MANUAL, REGULATION 4.5.

2. SUBSEQUENT TO THE 100% REVIEW MEETING WITH FAIRFAX COUNTY PUBLIC SCHOOLS, DESIGN AND CONSTRUCTION, THE ARCHITECT SHALL ACCOMPLISH THE FOLLOWING:

   A. INCORPORATE INTO THE CONSTRUCTION DOCUMENTS ALL PERTINENT COMMENTS OR REQUIREMENTS RESULTING FROM THE REVIEW MEETING.

   B. DELIVER FOUR (4) SETS OF SIGNED AND SEALED DRAWINGS TO FAIRFAX COUNTY PUBLIC SCHOOL, DESIGN AND CONSTRUCTION FOR PERMIT SUBMISSION TO DEM.

   C. DELIVER TWO (2) COMPLETE SETS OF CONSTRUCTION DOCUMENTS, AND ONE (1) SET OF DRAWINGS TO FAIRFAX COUNTY PUBLIC SCHOOL, DESIGN AND CONSTRUCTION FOR USE AND RECORD.

   D. DELIVER TWO (2) ONE-HALF SIZE SETS OF DRAWINGS TO FAIRFAX COUNTY PUBLIC SCHOOL, DESIGN AND CONSTRUCTION FOR USE AND RECORD.

   E. SEND TWO (2) COMPLETE, SIGNED AND SEALED SETS OF DRAWINGS, (WITH THE REQUIRED SIGNED DESIGN STATMENT), AND TWO (2) SETS OF SPECIFICATION TO THE STATE BOARD OF EDUCATION FOR FINAL REVIEW.

   F. ARRANGE FOR PREPARATION AND DISTRIBUTION OF CONSTRUCTION DOCUMENTS FOR BIDDING.

3. NOTE: LACK OF PROPER INTERDISCIPLINE COORDINATION, IMPROPER OR INCOMPLETE DESIGN OF STRUCTURAL OR PME SYSTEMS, OR OTHERWISE INCOMPLETE INFORMATION MAY REQUIRE POSTPONEMENT OF REVIEW OR ADDITIONAL REVIEW SESSION(S) BEYOND THE 100% REVIEW MEETING. COMPLETENESS OF DOCUMENTS IN ORDER TO MINIMIZE SCHEDULE DELAYS IS ESSENTIAL.

RENEWAL WORK - SPRINKLER

SCHEMATICS

1. GENERAL REQUIREMENTS

   A. OBTAIN HYDRANT INFORMATION FROM WATER AUTHORITY. REQUEST NEW FLOW TEST IF DATA IS OLD.

2. DRAWING REQUIREMENTS

   A. PROVIDE PLAN SHOWING PROPOSED ZONING OF SPRINKLER SYSTEM. EACH FLOOR SHALL BE ZONED SEPARATELY. COORDINATE ZONES WITH FIRE ALARM ZONES (EACH SPRINKLER ZONE SHALL BE SUBDIVIDED INTO MULTIPLE FIRE ALARM ZONES).

DESIGN AND DEVELOPMENT

1. GENERAL REQUIREMENTS

   A. VERIFY IF ADEQUATE STREET PRESSURE EXISTS FOR SPRINKLER SYSTEM.

   B. PROVIDE OUTLINE SPEC (BASED ON GUIDE SPEC).

   C. PROVIDE PRELIMINARY COST ESTIMATE.

   D. SURVEY BUILDING.

2. DRAWING REQUIREMENTS

   A. COORDINATE AND FINALIZE SPRINKLER ZONES.

   B. PROVIDE OVERALL PLAN SCALED AT 1/16 INCH, SHOWING APPROXIMATE LOCATIONS OF SPRINKLER MAINS IN BUILDING, SIAMESE CONNECTION AND THE SPRINKLER SERVICE ENTRANCE.

   C. PROVIDE FOUR SETS OF PLANS AND SPECS FOR FAIRFAX COUNTY PUBLIC SCHOOLS REVIEW.

30% CONSTRUCTION DOCUMENTS

1. GENERAL REQUIREMENTS

   A. ALL FLOOR PLANS SHALL BE SCALED AT 1/8 INCH MINIMUM.

2. DRAWING REQUIREMENTS

A. PROVIDE COVER SHEET WITH SYMBOLS LIST, COPIES OF THE AGREEMENT WITH THE FIRE MARSHAL, SPRINKLER SERVICE DETAIL AND SPRINKLER ZONE DIAGRAM. ALLOW ADDITIONAL SPACE FOR NOTES AND OTHER DETAILS.

B. PROVIDE FLOOR PLANS SHOWING SPRINKLER MAINS, THE SERVICE ENTRANCE AND SIAMESE CONNECTION.

C. PROVIDE FOUR SETS OF PLANS FOR FAIRFAX COUNTY PUBLIC SCHOOLS REVIEW.

60% CONSTRUCTION DOCUMENTS

1. GENERAL REQUIREMENTS

A. PROVIDE SPECIFICATIONS.

B. PROVIDE COST ESTIMATE.

2. DRAWING REQUIREMENTS

A. PROVIDE NOTES AND ADDITIONAL DETAILS FOR COVER SHEET.

B. ADD ALL BRANCH PIPING AND LOCATE ALL SPRINKLER HEADS. SPRINKLER HEADS SHALL BE LOCATED IN THE CENTER OF CEILING TILES (BOTH DIRECTIONS).

C. PROVIDE FOUR SETS OF PLANS AND SPECS FOR FAIRFAX COUNTY PUBLIC SCHOOLS REVIEW.

100% CONSTRUCTION DOCUMENTS

1. GENERAL REQUIREMENTS

A. PROVIDE FINAL COST ESTIMATE.

2. DRAWING REQUIREMENTS

A. COMPLETE COVER SHEET. ADD STATE PROJECT NUMBER AND TITLE BLOCKS.

B. PROVIDE PIPE SIZES ON ALL PIPING.

C. PROVIDE SECTIONS OF SPRINKLER PIPING LOCATED IN TIGHT AREAS.

D. PROVIDE ALL ROOM NAMES/NUMBERS ON FLOOR PLANS.

E. PROVIDE FOUR SETS OF PLANS AND SPECS FOR FAIRFAX COUNTY PUBLIC SCHOOLS REVIEW.

RENEWAL WORK - MECHANICAL

SCHEMATICS

1. DRAWING REQUIREMENTS

   A. PROVIDE OVERALL PLAN SCALED AT 1/16 INCH, SHOWING AREAS NEEDING DEMOLITION.

   B. PROVIDE OVERALL PLAN SCALED AT 1/16 INCH, SHOWING PROPOSED LOCATIONS AND TYPES OF NEW MECHANICAL EQUIPMENT AND DUCTWORK.

   C. PROVIDE PLAN SHOWING PROPOSED ZONING FOR TEMPERATURE CONTROLS.

DESIGN AND DEVELOPMENT

1. GENERAL REQUIREMENTS

   A. PROVIDE HEATING AND COOLING LOADS FOR ENTIRE BUILDING.

   B. VERIFY EXISTING BOILER CAPACITIES. IDENTIFY NEEDS FOR ADDITIONAL HEAT (NEW BOILERS).

   C. PROVIDE OUTLINE SPEC (BASED ON GUIDE SPEC).

   D. PROVIDE PRELIMINARY ESTIMATE.

   E. SURVEY BUILDING.

2. DRAWING REQUIREMENTS

   A. DEMOLITION

      1. FINALIZE OVERALL DEMOLITION PLAN.

   B. NEW WORK

      1. SHOW APPROXIMATE LOCATIONS/TONNAGE/CAPACITIES OF MECHANICAL EQUIPMENT.

      2. SHOW APPROXIMATE RUNS OF DUCTWORK.

      3. SHOW APPROXIMATE LOCATIONS OF PIPING MAINS.

      4. PROVIDE PROPOSED BOILER ROOM PLAN SCALED AT 1/4 INCH, SHOWING EQUIPMENT LAYOUT.

5. FINALIZE TEMPERATURE CONTROL ZONES.

6. PROVIDE FOUR SETS OF PLANS AND SPECS FOR FAIRFAX COUNTY PUBLIC SCHOOLS REVIEW.

30% CONSTRUCTION DOCUMENTS

1. GENERAL REQUIREMENTS

   A. ALL FLOOR PLANS SHALL BE SCALED AT 1/8 INCH MIMIMUM. ROOF PLANS MAY BE SCALED AT 1/16 INCH.

   B. PROVIDE SEPARATE SETS OF DEMOLITION AND NEW WORK PLANS.

2. DRAWING REQUIREMENTS

   A. PROVIDE COVER SHEET WITH SYMBOLS LIST, NOTES AND ZONE DIAGRAM FOR TEMPERATURE CONTROLS. ALLOW ADDITIONAL SPACE FOR TABLE OF SPACE LOADS (HEAT GAIN AND LOSS) AND ENERGY ANALYSIS (IF APPLICABLE).

   B. DEMOLITION

      1. PROVIDE FLOOR PLANS SHOWING ALL EXISTING EQUIPMENT. ALL EQUIPMENT AND PIPING TO BE REMOVED SHALL BE SHOWN CROSS-HATCHED.

   C. NEW WORK

      1. PROVIDE FLOOR PLANS SHOWING ALL NEW AND EXISTING TO REMAIN MECHANICAL EQUIPMENT, DUCTWORK AND PIPING MAINS.

      2. PROVIDE ROOF PLAN SHOWING ALL NEW AND EXISTING TO REMAIN ROOF MOUNTED EQUIPMENT.

      3. PROVIDE FINALIZED BOILER ROOM PLAN SCALED AT 1/4 INCH.

      4. PROVIDE MECHANICAL ROOM LAYOUTS SCALED AT 1/4 INCH.

   D. PROVIDE FOUR SETS OF PLANS FOR FAIRFAX COUNTY PUBLIC SCHOOLS REVIEW.

60% CONSTRUCTION DOCUMENTS

1. GENERAL REQUIREMENTS

   A. PROVIDE INDEX FOR SPECIFICATIONS INDICATING ALL SECTIONS THAT WILL BE A PART OF THE FINAL CONTRACT DOCUMENTS. PROVIDING ALL SECTIONS OF THE SPECIFICATIONS EDITED (MARK-UPS) FOR THE PROJECT.

   B. PROVIDE COST ESTIMATE.

2. DRAWING REQUIREMENTS

   A. DEMOLITION

      1. IDENTIFY ALL PIECES OF EQUIPMENT, SHOW EXISTING SIZES, ADD PLAN NOTES AND PROVIDE ALL ROOM NAMES/NUMBERS ON FLOOR PLANS. ALL WORK ON DEMOLITION FLOOR PLANS SHALL BE COMPLETE AT THIS PHASE.

   B. NEW WORK

      1. PROVIDE SECTIONS OF ALL MECHANICAL ROOMS.

      2. ADD ALL BRANCH PIPING, IDENTIFY ALL PIECES OF EQUIPMENT, SIZE ALL PIPING AND DUCTWORK, ADD PLAN NOTES AND PROVIDE ALL ROOM NAMES/NUMBERS ON FLOOR PLANS. ALL WORK ON FLOOR PLANS SHALL BE COMPLETE AT THIS PHASE.

   C. BEGIN EQUIPMENT SCHEDULES AND DETAIL SHEETS.

   D. PROVIDE FOUR SETS OF PLANS AND SPECS FOR FAIRFAX COUNTY PUBLIC SCHOOLS REVIEW.

100% CONSTRUCTION DOCUMENTS

1. GENERAL REQUIREMENTS

   A. COMPLETE SPECIFICATIONS. ALL SECTIONS OF THE SPECIFICATIONS.

   B. PROVIDE FINAL COST ESTIMATE.

2. DRAWING REQUIREMENTS

   A. COMPLETE COVER SHEET. ADD SPACE LOADS, ENERGY ANALYSIS (IF APPLICABLE), DESIGN STATEMENT, TITLES AND STATE PROJECT NUMBER.

   B. COMPLETE EQUIPMENT SCHEDULES AND DETAIL SHEETS.

   C. PROVIDE PIPING SCHEMATICS (SYSTEM FLOW DIAGRAMS).

   D. PROVIDE FOUR SETS OF PLANS AND SPECS FOR FCPS REVIEW.

RENEWAL WORK INTERMEDIATE AND HIGH SCHOOLS - PLUMBING

SCHEMATICS

1. GENERAL REQUIREMENTS

   A. COORDINATE WITH THE GAS COMPANY IF NATURAL GAS IS AVAILABLE (IF SCHOOL IS NOT CURRENTLY ON GAS).

2. DRAWING REQUIREMENTS

   A. PROVIDE OVERALL PLAN SCALED AT 1/16 INCH, SHOWING AREAS NEEDING DEMOLITION.

   B. PROVIDE OVERALL PLAN SCALED AT 1/16 INCH, SHOWING AREAS NEEDING NEW WORK, EXISTING HOT WATER SOURCE(S) AND EXISTING GAS METER LOCATION (IF APPLICABLE).

DESIGN AND DEVELOPMENT

1. GENERAL REQUIREMENTS

   A. VERIFY EXISTING HOT WATER DEMAND. IDENTIFY NEEDS FOR ADDTIONAL HOT WATER.

   B. PROVIDE OUTLINE SPEC (BASED ON GUIDE SPEC).

   C. PROVIDE PRELIMINARY COST ESTIMATE.

   D. SURVEY BUILDING.

2. DRAWING REQUIREMENTS

   A. DEMOLITION

      1. FINALIZE OVERALL DEMOLITION PLAN.

   B. NEW WORK

      1. SHOW APPROXIMATE LOCATIONS OF NEW WATER, SANITARY, STORM AND GAS PIPING MAINS ON OVERALL NEW WORK PLAN.

      2. IDENTIFY ALL HANDICAPPED FIXTURES (WATER CLOSETS, LAVATORIES AND WATER COOLERS).

      3. SHOW SPRINKLER SERVICE LOCATION.

      4. COORDINATE NEW GAS METER LOCATION (IF APPLICABLE).

5. PROVIDE TYPICAL 1/8 INCH SCALE PLANS OF THE FOLLOWING ROOMS (IF APPLICABLE):

   A. CHEMISTRY
   B. SCIENCE
   C. ART
   D. HOME ECONOMICS
   E. DARK ROOM

C. PROVIDE FOUR SETS OF PLANS AND SPECS FOR FAIRFAX COUNTY PUBLIC SCHOOLS REVIEW.

30% CONSTRUCTION DOCUMENTS

1. GENERAL REQUIREMENTS

   A. ALL FLOOR PLANS SHALL BE SCALED AT 1/8 INCH MINIMUM.

   B. PROVIDE SEPARATE SETS OF DEMOLITION AND NEW WORK PLANS.

2. DRAWING REQUIREMENTS

   A. PROVIDE COVER SHEET WITH SYMBOLS LIST, SPRINKLER SERVICE DETAIL, FIXTURE CONNECTION SCHEDULE WITH MOUNTING HEIGHTS AND AN OVERALL DRAINAGE FIXTURE UNIT SCHEDULE. ALLOW ADDITIONAL SPACE FOR NOTES AND OTHER DETAILS.

   B. DEMOLITION

      1. PROVIDE FLOOR PLANS SHOWING ALL EXISTING FIXTURES. ALL FIXTURES AND PIPING TO BE REMOVED SHALL BE SHOWN CROSS-HATCHED.

   C. NEW WORK

      1. PROVIDE FLOOR PLANS SHOWING ALL FIXTURES THAT ARE NEW AND EXISTING TO REMAIN, UTILITY ENTRANCES, WATER HEATERS AND THE LOCATIONS OF ALL NEW PIPING MAINS INSIDE THE BUILDING.

   D. PROVIDE FOUR SETS OF PLANS FOR FAIRFAX COUNTY PUBLIC SCHOOLS REVIEW.

60% CONSTRUCTION DOCUMENTS

1. GENERAL REQUIREMENTS

   A. PROVIDE INDEX FOR SPECIFICATIONS INDICATING ALL SECTIONS THAT WILL BE A PART OF THE FINAL CONTRACT DOCUMENTS. PROVIDE ALL SECTIONS OF THE SPECIFICATIONS EDITED (MARK-UPS) FOR THE PROJECT.

B. PROVIDE COST ESTIMATE.

2. DRAWING REQUIREMENTS

A. PROVIDE DEMOLITION AND NEW WORK NOTES AND ADDITIONAL DETAILS FOR COVER SHEET.

B. DEMOLITION

1. IDENDIFY ALL FIXTURES, SHOW EXISTING PIPE SIZES, ADD PLAN NOTES AND PROVIDE ALL ROOM NAMES/NUMBERS ON FLOOR PLANS. ALL WORK ON DEMOLITION FLOOR PLANS SHALL BE COMPLETE AT THIS PHASE.

C. NEW WORK

1. IDENTIFY ALL FIXTURES, ADD ALL BRANCH PIPING, SIZE ALL PIPING, ADD PLAN NOTES AND PROVIDE ALL ROOM NAMES/NUMBERS ON FLOOR PLANS. ALL WORK ON FLOOR PLANS SHALL BE COMPLETE AT THIS PHASE.

D. PROVIDE FOUR SETS OF PLANS AND SPECS FOR FAIRFAX COUNTY PUBLIC SCHOOLS REVIEW.

100% CONSTRUCTION DOCUMENTS

1. GENERAL REQUIREMENTS

A. COMPLETE SPECIFICATIONS. ALL SECTIONS OF THE SPECIFICATIONS.

B. PROVIDE FINAL COST ESTIMATE.

2. DRAWING REQUIREMENTS

A. COMPLETE COVER SHEET. ADD DESIGN STATEMENT, TITLES AND STATE PROJECT NUMBER.

B. PROVIDE COMPLETE RISER DIAGRAMS FOR ALL NEW PIPING SYSTEMS, INCLUDING PIPE SIZES.

C. PROVIDE FOUR SETS OF PLANS AND SPECS FOR FAIRFAX COUNTY PUBLIC SCHOOLS REVIEW.

INTERMEDIATE AND HIGH SCHOOLS - RENEWAL WITH ADDITIONS - ELECTRICAL

SCHEMATICS

1. GENERAL REQUIREMENTS

A. Conduct a thorough site survey. Provide a detailed written description of each of the existing electrical systems including: the electrical distribution system(s) (including emergency); lighting; dimming systems; receptacles, special outlets, and misc. connections; fire alarm; sound and intercommunications; clock and program bell; television (master antenna and/or cable); lightning protection; and security. The following information, as a minimum, should be included.

1. Electrical distribution system - Provide the electrical characteristics for the existing electrical services including the name of the electrical utility, underground or overhead, and location of the electrical utility transformer(s). Describe the distribution system(s) noting the type and electrical sizes of major equipment (not manufacturer) including type of over-current devices. Note any available space for expansion of existing equipment including space within switchboards and panelboards for additional over-current devices. If possible, determine whether the existing feeders utilize aluminum conductors. Describe the physical condition of the existing equipment and include a recommendation for replacing, improving, repairing and/or expanding the sytem.

2. Emergency power distribution system - Describe the existing emergency power distribution system noting the type and electrical sizes for each component. Note the physical condition of the existing equipment and include a recommendation for replacing, improving, repairing and/or expanding the system.

3. Lighting - Describe the existing lighting (including emergency and exit signage) system presently used in each area including building and/or pole mounted exterior lighting. Note the physical condition of the existing lighting fixtures (and poles) and include a recommendation for replacing, improving, repairing, and/or expanding the system.

4. Dimming systems - Describe any existing theatre dimming system including instruments. Note the locations and physical condition of the existing equipment, control stations, and instruments. Include a recommendation for replacing, improving, repairing and/or expanding the system.

5. Receptacles, special outlets, and misc. connections - generally describe the quantity, types, locations, and condition of existing receptacles and outlets (including coverplates) in each of the major type areas. Note any use of extension cords. Include a recommendation for replacing, improving, repairing, and/or expanding the quanity and locations of receptacle and special outlets.

6. Fire alarm - Describe the existing fire alarm system, including zoning, and note the type, locations, and physical condition of all equipment. Include a recommendation for replacing, improving, repairing, and/or expanding the existing system.

7. Sound and intercommunications system - Describe the existing sound and intercommunications system(s). Note whether or not the existing system(s) are capable of expansion and include the physical condition of the components. Include a recommendations for replacing, improving, repairing, and/or expanding the existing system(s).

8. Clock and program bell system - Describe the existing clock and program bell system. Note the location of clocks controlled by the master clock. Include a description of the physical condition of the components and a recommendation for replacing, improving, repairing and/or expanding the existing system.

9. Television distribution system - Describe the existing cable or master antenna television distribution system. Note the location and physical condition of the major items of equipment. Include a recommendation for replacing, improving, repairing, and/or expanding the existing system.

10. Lightning protection - Note whether or not the existing building is provided with a lightning protection system. Include a description of the physical condition of the system and any recommendation for replacing and/or repairing the existing system.

11. Security system - Describe the existing security system. Note any existing exterior and/or interior doors to secured areas not presently equipped with security switches. Include a recommendation for replacing, improving, repairing, and/or expanding the existing system.

12. Site - Describe the site conditions as they pertain to existing underground electrical utilities, utility company transformer location(s), and site lighting. Include a recommendation for relocating, replacing, improving, repairing, and/or expanding the existing systems and equipment.

B. Provide a written description of the proposed new lighting system for each type of space (Classroom, Gymnasium, Multi-Purpose Room, Office, etc.), parking and drive areas, and any building mounted security lighting. Each system description should include a generic definition of the type of luminaire proposed (manufactuer names and catalog numbers will not be acceptable as sole means of description).

C. Provide a written description of the proposed electrical power distribution system(s) identifying major items of equipment and their proposed locations. Indicate the relationship between any new electrical service and the existing electrical service and distribution. Include the electrical service characteristics and generally identify what items are to be fed at what voltage. This description should include the emergency power system.

D. Provide a brief written description of each proposed special system (fire alarm, security, master clock and program, telephone, communications, C.A.T.V., etc.) identifing major items of equipment and their proposed locations. Indicate the relationship between any new equipment.

E. Provide a copy of the Engineer's letter to the electrical utility requesting the maximum electrical demand for the existing service.

DESIGN AND DEVELOPMENT

1. GENERAL REQUIREMENTS

A. Provide copies of the footcandle level calculations for each room.

B. Provide a copy of the preliminary electrical load letter as submitted to the electrical utility company. Also include a copy of the electrical utility's response to the maximum demand request.

C. Provide an outline specification (based on the Guide Specification).

D. Provide a preliminary cost estimate.

2. DRAWING REQUIREMENTS

A. Provide an electrical site plan indicating the following: proposed site lighting; location of the existing and new main electrical equipment rooms; existing and proposed power company transformer locations; property lines; and north arrow. The plan shall clearly differentiate between the existing building and any new addition(s). This drawing may be retained for use as part of the Contract Documents.

B. Provide an overall floor plan for each level, scaled at 1/16 inch, showing a proposed lighting layout for each typical type of room (classroom, cafeteria, multi-purpose, media center, office, workroom, kitchen, etc.). Any variation in a typical room's dimensions of configuration shall warrent a separate lighting layout submission. Indicate the locations of all new and/or existing to remain dimming system equipment.

C. Provide an overall floor plan for each level, scaled at 1/16 inch, showing a proposed layout of receptacles, floor outlets, line voltage clock outlets, and C.A.T.V. system outlets for each typical type of room (as described above). This plan should also include the proposed locations of all major new and existing to remain normal and emergency electrical service and distribution equipment.

D. Provide an overall floor plan for each level, scaled at 1/16 inch, showing the proposed locations of all new and existing to remain fire alarm system equipment and devices including control and graphic annunciator panels. The plan should also include proposed system zoning.

E. Provide an overall floor plan for each level, scaled at 1/16 inch, showing the proposed locations of all new and existing to remain program type clocks; security system devices; sound system speakers, callbacks switches, handset locations, central console location, and the location of each portable system; and fire alarm control and annunciator panels, manual striking stations, signalling devices, automatic detectors, smoke door hold open/release devices, and sprinkler flow alarm and valve tamper switches.

30% CONSTRUCTION DOCUMENTS

1. GENERAL REQUIREMENTS

A. Re-use of previously submitted plans will not be acceptable except as previously noted.

B. All floor plans, including the roof and removal plans, shall be scaled at 1/8 inch minimum. All new partitions and walls shall be shaded so as to differentiate from existing construction.

C. Provide a written update of the preliminary electrical load calculation.

D. Return the marked-up Design and Development drawings.

E. Provide a list of all electrical related information still required from Fairfax County Public Schools.

F. Provide a general written plan or the electrical utility service change-over and how same will affect school operation (if applicable).

2. DRAWING REQUIREMENTS

A. Provide a computer generated site lighting plan indicating the point-by-point maintained footcandle levels. This plan must correspond with and accompany the lighting layout shown on the electrical site plan.

B. Add an electrical symbols and abbreviations list to the electrical site plan sheet. Show only those symbols and abbreviations actually used on the Drawings.

C. Provide a floor plan showing all existing electrical equipment to be removed and/or relocated. The distinction between equipment to be removed and equipment to be relocated must be clear.

D. Provide floor plans showing the new lighting layout in each area/room. Where no new lighting can be shown at this time due to ongoing design coordination with other disciplines, provide a detailed written description of the final layout and type of lighting fixtures to be used. These plans shall also show: all illuminated exit signs; which fixtures are to be connected to emergency lighting circuits; the method of lighting control for each area/room; locations of all new and/or existing to remain dimming system equipment, control stations, and instruments; lighting fixture type designation; room names; and footcandle level designations.

E. Provide floor plans showing new receptacle, C.A.T.V., special outlets with NEMA configuration numbers, telephone outlets, and line voltage clock layouts in each area/room. Indicate the locations of all mechanical, kitchen, etc., equipment requiring electrical connections. Show large scale layouts of all electrical equipment rooms and identify each piece of equipment. Show the location of the C.A.T.V. headend equipment rack and the main telephone equipment space.

F. Provide floor plans showing the locations of all new special system outlets and equipment including but not limited to: program type clocks (indicate which clocks are to be double-faced); security system door switches, motion detectors (instructional area motion detectors shall be shown on the lighting plans as part of the lighting control system), roof hatch switches, and control equipment, sound system speakers; call-back switches, microphone outlets, portable systems racks and input jacks, handset outlets, and main console; and fire alarm system control and graphic annunciator panels, manual striking stations, signalling devices, automatic detectors, smoke door hold open/release devices, and sprinkler flow alarm and valve tamper switches. Indicate the location of and identify each sound system terminal cabinet. Adjacent to each fire alarm actuating device, speaker, and security system device indicate the appropriate zone number.

G. Provide a roof plan, if necessary, and indicate the locations of all rooftop mechanical equipment and their required electrical connections.

H. Provide an power riser diagram showing all existing electrical service entrance and distribution equipment, existing emergency service equipment, and their associated interconnections. Label each item of equipment whether to be removed or to remain.

I. Provide a power riser diagram showing all new and existing to remain electrical service entrance and distribution equipment, emergency service equipment, and their associated interconnections. Lable each item of equipment.

J. Provide four (4) sets of plans for Fairfax County Public Schools review.

60% CONSTRUCTION DOCUMENTS

1. GENERAL REQUIREMENTS

A. Provide a rough-draft of each electrical specification section which will be part of the final contract documents.

B. Provide a written update of the cost estimate.

C. Provide a written update of the 30% electrical load calculations.

D. Return the marked-up 30% Construction Documents drawings.

E. Provide an updated list of all electrical related information still required from Fairfax County Public Schools.

F. Provide the names and addresses of the cable television and telephone company contacts for this project.

G. Provide manufacturer's catalog cut sheets for each type of lighting fixture specified.

2. DRAWING REQUIREMENTS

A. All new layouts (lighting, receptacles, special systems, etc.) must be complete at this time.

B. The addition of new branch circuit wiring should be in progress (roughly 50% - 70%) at this time.

C. The addition of Fairfax County Public School's standard details, and details generated by the Engineer, applicable to the project, should be in progress at this time.

D. All of the schedules (lighting fixture, panelboard, etc.) required for this project should be blocked out at this time and significant progress made filling in the technical information.

E. All of the riser diagrams required for this project should be blocked out at this time showing major items of equipment and their interconnections. New sound, clock and program, and security system wiring may be shown on the Special System floor plans if clarity can be strickly maintained.

F. Provide a large scale plan of the main and each satellite electrical equipment room. Plans shall show the locations of all new and existing to remain equipment to be installed therein, drawn to scale (based on the equipment manufactuer prototyped). Provide the name of the prototyped manufacturer.

G. All new and existing to remain mechanical, plumbing, kitchen, shop, etc. equipment requiring electrical connections shall be shown at this time with the following information: equipment identification (name and number); electrical characteristics (voltage, phase, amps, horsepower, or wattage); disconnecting means; and branch circuit requirements.

H. Provide a detail of the new main distribution switchboard showing the suggested layout of all devices plus all critical dimensions and any other special design requirements.

I. Provide four (4) sets of plans for Fairfax County Public Schools review.

100% CONSTRUCTION DOCUMENTS

1. GENERAL REQUIREMENTS

A. Provide a copy of the completed specifications.

B. Provide the final cost estimate.

C. Provide a copy of the final electrical load letter as sent to the electrical utility company.

D. Return the marked-up 60% Construction Documents drawings.

E. Check that all title block information has been completed on each sheet.

2. DRAWING REQUIREMENTS

A. Complete the electrical cover sheet (site plan). Add electrical design statement and electrical drawing index.

B. Complete all floor plans, details, notes, and schedules.

C. Complete all riser diagrams by insuring that all equipment is shown and identified, and that all interconnections are labeled and/or sized.

D. Provide four (4) sets of plans for Fairfax County Public Schools reviews.

Thank you for your cooperation.

ATTACHMENT 4

SUMMARY OF WORK WITH PHASING PLAN

SECTION 01010 - SUMMARY OF WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of contract, including General Conditions (01001), and other Division One Specification Sections, apply to this section.

1.02 WORK COVERED BY CONTRACT DOCUMENT

A. Contract Documents indicate the work of the Contract, and related provisions of project which may include but are not necessarily limited to the following:

1. Existing site conditions and restrictions.

2. Alterations and coordination with existing work.

3. Other work which may be performed concurrently by Owner.

4. Requirements by Owner for partial occupancy during construction.

B. The work includes relocation and removal of existing equipment, demolition, new additions, built-up roofing, re-roofing, new partitions, painting, resilient flooring, carpeting, acoustical ceilings, plumbing, heating, ventilating, air conditioning, and lighting.

C. The work shall be completed in phases as indicated herein and on the phasing drawings, sheets PH1 thru PH12, to allow the Owner partial occupancy of the building.

1.03 CONTRACT METHOD

A. Construction of the work under a single lump sum contract.

1.04 CONTRACTOR USE OF PREMISES

A. Limit use of premises for work and for construction operations.

1.05 CONTRACTOR'S DUTIES

A. Except as specifically noted, provide and pay for:

1. Labor, materials, and equipment.

2. Tools, construction equipment and machinery.

3. Water, heat and utilities including electrical power required for construction. (Owner will pay for utilities used. Contractor to provide any necessary connections.)

4. Other facilities and services necessary for proper execution and completion of work.

B. Pay legally required sales, consumer and use taxes.

C. The Owner shall obtain and pay for the General Building Permit. The Contractor shall obtain and pay for all other permits required by law for the execution of this work unless noted otherwise.

D. The Contractor shall also obtain and pay certificates, inspections and other legal fees required, both permanent and temporary, including plumbing, electrical and highway permits. NOTE: Sewer frontage or availability and water frontage and tap-on fees or charges will be paid by Owner.

1.6 COORDINATION OR WORK SEQUENCE

A. Coordinate work for the various sections of Specifications to ensure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed later.

B. Verify that characteristics of elements of interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

C. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on drawings. Follow routing shown for pipes, ducts, and conduits, as closely as practicable; make runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. In finished areas, conceal pipes, ducts, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements.

1.07 FIELD ENGINEERING

A. Provide field engineering service; establish grades, lines, and levels, by use of recognized engineering survey practices.

B. Control datum for survey is that established by Owner-provided survey. Locate and protect control and reference points.

1.08 REFERENCE STANDARDS

A. For products specified by association or trade standards, comply with requirements of the standards, except when more rigid requirements are specified or required by applicable codes.

B. The date of the standard is in effect as of the Bid Date, except when a specified date is specified.

C. Obtain copies of standards when required by Contract Documents. Maintain copy at job site during progress of specific work.

PART 2 - SCHEDULE OF COMPLETION

2.01 CONSTRUCTION TIME

A. All work shall be Substantially Complete and certified by the Architect by December 1, 1993. All work shall be totally complete within thirty (30) consecutive calendar days after the date certified as Substantially Complete.

2.02 WORK SEQUENCE

A. Construct work in accordance with Project Schedule established under Section 01310 and as indicated on the phasing drawings, sheets PH1 thru PH12 of the Contract Documents; coordinate the schedule and operations with the Owner's Representative. There shall be no shutdown of electricity, water, or heat during the life of the project unless approved in writing by the Owner. The Contractor is responsible for providing temporary air conditioning or heating for those areas which are scheduled to be occupied for school use and the Contractor has demolished the existing air conditioning or heating system.

Portion of Work	Date of Commencement of Work	Date of Substantial Completion
Phase P-1 Media Center	April 1, 1991	March 1, 1992
Phase P-1A Cafeteria, Kitchen, Classrooms	April 1, 1991	September 1, 1991

Portion of Work	Date of Commencement of Work	Date of Substantial Completion
Phase P-1B Kitchen, Classrooms	June 20, 1991	September 1, 1991
Phase P-2 Classrooms, Toilets	September 1, 1991	February 1, 1992
Phase P-3 Theater Addition	April 1, 1991	September 1, 1992
Phase P-3A Art Science Classrooms	March 1, 1992	September 1, 1992
Phase P-3B Science Classrooms	June 20, 1992	September 1, 1992
Phase P-4A, P-4B, P-4C Vocational	September 1, 1992	March 1, 1993
Phase 5 P.E. Addition	April 1, 1991	September 1, 1993
Phase P-5A Aux. Gym Main Gym	March 1, 1993	August 1, 1993
Phase P-5B Admin. Locker Room	June 20, 1993	September 1, 1993
Phase P-5C Theater Stage	June 20, 1993	November 20, 1993
Phase P-6 Boiler Room	April 1, 1991	December 1, 1993

For additional information see the phasing drawings of the Contract Documents.

B. Commencement of each phase of work in existing classrooms shall not occur until sufficient materials and equipment are available for the particular phase, and sufficient numbers of workmen are available to execute the work in the time period indicated.

PART 3 - USE OF PREMISES

3.01 CONTRACTOR'S USE OF PREMISES

A. Contractor shall coordinate use of premises under direction of Owner's Representative.

B. Contractor shall assume full responsibility for protection and safekeeping of products under this Contract stored on the site.

C. Contractor shall move any stored products, under Contractor's control, which interfere with operations of the Owner.

D. Contractor shall, at his option, obtain and pay for the use of additional storage or work areas needed for operations.

E. Contractor shall limit his use of the existing building for work and for storage to allow for:

1. Owner Occupancy

2. Public Use

F. Contractor shall provide temporary toilet facilities for use by his employees and other workers associated with the project. The use of existing facilities is not permitted.

G. Contractor shall ensure that bus circulation around the building will remain passable at all times.

H. The Contractor shall tag all existing furniture and equipment for location and removal from spaces to be renovated and shall remove, store and relocate as directed. Location for storage and reallocation shall be coordinated with the Owner. The following is a list of furniture and equipment in major areas of the school. These are informational in nature only and not meant to be all inclusive.

Tables as follows:

Cafeteria:	48 round-seats, 4 each 8 rectangular-seats, 12 each 21 round-seats, 6 each 10 round seats, 4 each
	(The Owner will utilize an undetermined number of cafeteria tables and chairs during construction.)
Classroom:	30 student desks 1 teacher desk 1 wardrobe 3 bookcases

The classroom furniture is typical and may vary from room to room. All other areas contain furniture and equipment which will also be required to be tagged, removed, stored and returned. The Contractor shall survey and list contents of each space.

I. The Owner shall have right of first refusal for all items not being reused in the new work.

3.02 WORK IN, OR ADJACENT TO, EXISTING OR OCCUPIED AREAS

A. Maintain the existing building in a secure, weather tight condition.

B. Repair damage to existing structures, equipment or furnishings resulting from Contractor's use of premises.

C. No construction materials shall be stored in a corridor at any time.

D. All existing exit lights and exit ways must remain operational. Egress shall be by means of hard surfaced, non-slip walkways, ramps or other platforms, along with temporary handrail, barricade or canopies as required.

E. A minimum corridor width of 72" shall be maintained at all corridors of existing building. No work shall be allowed in corridors during school hours. No work such as welding or soldering, which is considered hazardous to the building occupants, shall take place during school hours.

F. Contractor shall take all necessary safety precautions to clearly delineate the construction areas in occupied areas with cones or other devices, and to isolate the area with temporary ribbon fences.

G. Contractor shall immediately clean and remove construction debris from any work area in an occupied area once the work is completed or halted for a significant period of time.

H. No gas powered construction equipment will be allowed in an occupied area during school hours.

I. No hoisting shall be allowed over the school building during normal school hours or other time when the building is occupied for school related or other activities.

J. Contractor shall be responsible for carefully moving and repositioning all loose furniture and equipment which obstructs proper performance of work in existing spaces.

K. Where the sequence of work requires work to be continuously performed in existing corridor ceiling spaces during school hours, tie all light fixtures at each corner to existing joists above, tie all smoke detection devices as close to the ceiling as possible, and secure all security, P/A, telephone or other wiring which is not in conduit.

3.03 OWNER OCCUPANCY

A. The Contractor shall schedule his operations for completion of portions of the work, and coordinate work sequence in the existing building for the Owner's occupancy upon Substantial Completion of the entire work. See also paragraph 2.02, Work Sequence.

B. The Contractor agrees to permit the Owner to use and occupy a portion or unit of the project before formal acceptance of the unit or total project by the owner, provided the Owner:

1. Secures written consent of the Contractor (except in the event in the opinion of the Architect, the Contractor is chargeable with unwarranted delay in final cleanup of punch list items or other contract requirements, the Owner may occupy without Contractor's consent);

2. Secure endorsement from the insurance carrier and consent of the surety to permit occupancy of the building or use of the project during the remaining period of construction.

C. Owner will occupy the premises during the normal 10-month school year for the conduct of his normal operations. Cooperate with Owner's Representative in all construction operations to minimize conflict and to facilitate continued Owner usage.

D. Owner will arrange for rental of trailers to facilitate continuation of classes during work on classrooms. Owner shall provide for installation and utility hook-up.

PART 4 - PRECAUTIONS AND SAFETY

4.01 SPECIAL REQUIREMENTS

A. Fire Protection: Provide and maintain an adequate number of hand fire extinguishers at convenient and appropriate locations during construction. Avoid all accumulations of flammable debris by removing rubbish promptly. Take all other precautions necessary to prevent fire. Supervise closely the storage of paint materials and other combustible products.

1. Existing fire alarm and detection system and P.A. system must remain operable at all times during construction.

B. Accident Prevention and Safety: Comply with all applicable laws, ordinances, rules, regulations and orders of governing authorities having jurisdiction for the safety of persons and property to protect them from damage, injury or loss. Erect and maintain, as required by conditions and progress of the work, all necessary safeguards for safety and protection, including fences, railings, barricades, lighting, posting of danger signs and other warnings against hazards. Where prevention of construction accidents is not regulated by code or ordinance, comply with AGC's "Manual of Accident Prevention in Construction." Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the project. All scaffolds shall be built in accordance with all requirements of local, state and federal laws and regulations.

C. The Contractor shall supply identification badges which must be worn by all tradesmen working on this project. No employee of the Contractor, subcontractors or sub-subcontractors, material suppliers or other persons associated with the project may enter the existing school without an approval identification badge. Failure to comply with this requirement will be cause for immediate and permanent removal of the employee(s) in question from this and any other school building.

D. See Paragraph 3.02, this Section, for additional specific precautions or restrictions related to safety.

END OF SECTION 01010

ATTACHMENT 5

PRE-QUALIFICATION PROCESS

MINIMUM PRE-QUALIFICATION/SUBMISSION REQUIREMENTS FOR PROSPECTIVE BIDDERS FOR THE CHANTILLY HIGH SCHOOL RENEWAL PROJECT

FOR

FAIRFAX COUNTY PUBLIC SCHOOLS

The purpose of this document is to establish the procedure by which prospective bidders are pre-qualified to bid on the Chantilly High School Renewal project for F.C.P.S. This project is not only large in scope but it is required to be completed in accordance with a stated phasing schedule while the school remains in operation. All work must be completed without disruption of school activities which will require the provision of two or more work shifts for most all trades. All costs associated with these extra crews and supervision will be included in the general and subcontractors bid pricing.

All prospective bidders must be pre-qualified to submit a valid bid. The documentation required for pre-qualification is the AIA Document A305-1986 edition completed in detail including the following changes:

1. In addition to the experience requirements called for in paragraph 4 of AIA Document A305-1986 the prospective bidders must supply a listing of institutional renewal projects completed or in progress which exceeds $5,000,000 in value. Included with this listing will be the address and phone contact of the owner and architect of each project.

2. The prospective bidders must acknowledge that they will provide to the owner a 5% Bid Bond and will provide 100% Performance and Payment Bonds for this project as the general contractor and they will require 100% Performance and Payment Bond from each sub-contract in excess of $250,000 on the project. The general contractor will be required to provide to the owner copies of all required bonds prior to submission of the first request for payment on the contract.

3. In addition to the requirements called for in paragraph 3 of the AIA Document A305-1986 the prospective bidder must list all threatened or pending litigation or arbitration they are faced with.

4. Failure to provide any required information or giving false information shall result in the disqualification of the prospective bidder.

ATTACHMENT 6

INSTRUCTIONS TO BIDDERS

SECTION 00020 - INVITATION TO BID

PART 1 - GENERAL

1.01 Notice is hereby given that the County School Board of Fairfax County, Virginia, 10700 Page Avenue, Fairfax, Virginia 22030, hereinafter called the Owner, will receive up to, but not later than 7:00 p.m. E.S.T., Tuesday, March 12, 1991, sealed proposals for Chantilly High School, 4201 Stringfellow Road, Chantilly, Virginia.

A mandatory Pre-Bid Conference will be held at the project site on February 26, 1991, 2:00 p.m. to 6:00 p.m. at the main office of Chantilly High School.

1.02 Proposals shall be submitted in duplicate and shall be deposited in the Bid Box in the lobby of the Burkholder Administrative Center, 10700 Page Avenue, Fairfax, Virginia, on or before the hour and date designated above, at which time they will be opened and read in public.

1.03 A bidder may withdraw his bid from consideration if the price bid was substantially lower than the other bids due solely to a mistake therein, provided the bid was submitted in good faith, and the mistake was a clerical mistake as opposed to a judgement mistake, and was actually due to an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or materials made directly in the completion of a bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used in the preparation of the bid sought to be withdrawn. The bidder must give notice in writing of his claim of right to withdraw his bid within two business days after the conclusion of the bid opening procedure. Any claim of a bidder shall be governed by Section 11-20.1 of the Code of Virginia, as amended.

1.04 Proposals will be considered on a lump sum basis for the entire work described on the Drawings and in the Specifications, plus any alternates selected by the Owner.

1.05 Drawings and Specifications may be examined and sets obtained at the office of Strang and Samaha, AIA, 10300 Eaton Place, Suite 200, Fairfax, Virginia 22030. Up to four (4) sets of bidding documents will be furnished to each General Contractor. A $300.00 deposit is required, per set and shall be refunded if all documents are returned in good condition within ten (10) days after the proposals are opened. (Documents of non-bidders shall be refunded only $100.00 per set.) Sub-contractors will be furnished with one (1) set upon request. A $300 deposit is required and shall be refunded if all documents are returned in good condition within ten (10) days after the proposals are opened.

10. AWARD OF CONTRACT:

A. The contract will be awarded to the lowest responsive and responsible bidder complying with these instructions and the Invitation to Bid, provided his proposal is responsible and it is in the interest of the Owner to accept it. The competency and responsibility of bidders will be considered in making the award. The Owner reserves the right to award the contract on the basis of any one of all bid items requested or any combinations thereof.

B. The Owner reserves the right to require submission of references in sufficient time to make inquiries regarding the responsibility of the bidder before making the award, and the right to require a recent financial statement from the bidder if the Owner deems it necessary. The Owner also emphasizes its intention not to award any construction contract to a bidder whose past performance shows his firm to be generally late in performance of construction contracts. The ability of the low bidder to provide the required bonds will not of itself constitute responsibility of the bidder.

C. The successful bidder, upon award of the contract shall be required to be licensed in accordance with the code of the County of Fairfax, Virginia, 1976, Chapter 4, Article 7, entitled "Business, Professional and Occupational Licensing (BPOL) Tax", questions concerning BPOL tax should be directed to the Office of Assessments, telephone (703) 246-2371.

D. The owner reserved the right to defer award of contract for a period of 90 days after due date of proposals.

E. The lowest bidder is determined by the aggregate amount of the base bid, plus any alternates accepted by the Owner.

F. A tie bid occurs when two or more bids, plus accepted alternates, if any, are exactly the same amount. Preference in award of the bids will be given first to resident bidders of Fairfax County, then to resident bidders of the Commonwealth of Virginia. All other tie bids will be awarded by drawing of lots in public.

G. A "responsive bidder" shall mean a bidder who has submitted a bid which conforms, in all material respects, to the requirements of the bidding documents.

SECTION 00100 - INSTRUCTION TO BIDDERS:

1. QUALIFICATIONS OF BIDDERS:

A. Bidders are required under Title 54, Chapter 7, Code of Virginia as amended, to show evidence of certificate of registration before proposal may be received and considered on a general or subcontract of $40,000 or more, or the total value of all such construction, removal, repair or improvements undertaken by such person within any twelve-month period is $300,000 or more. The bidder shall place on the outside of the envelope containing the proposal and in his proposal over his signature the following notations: "Licensed Virginia Contractor No. _____ _____".

2. BIDDER'S QUESTION:

A. Should there be discrepancies, omissions, conflicting statements or questions of intent in the Specifications or on the Drawings, the Contractor shall notify the Architect. The Architect will welcome such inquiry and if deemed necessary by either party, will issue a written addendum clarifying the matter in question. If this practice is not adhered to, the Architect then reserves the right to interpret the intent of the Drawings and Specifications.

3. ADDENDA:

A. All addenda issued by the Architect during the time of bidding shall become a part of the Drawings and Specifications loaned to the bidder for the preparation of this proposal, and shall be covered in the proposal and will be made a part of the Contract.

4. BID SECURITY:

A. Proposals shall be accompanied by a certified or cashier's check or a bidder's bond in an amount not less than five percent (5%) of the amount of the proposal, made payable to the County School Board of Fairfax County, Virginia. The bidder's bond shall be issued by a surety company licensed to conduct business in Virginia and shall be on the form herein provided, or be a surety company's standard form containing the following phrase "the Principal shall pay to the obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount which the Obligee may in good faith contract with another party to perform the work covered by said bid." Said check or bond shall be given as a guarantee that a bidder will enter into a contract if awarded the work and, in case of refusal or failure to enter into said contract, the check or bond will be declared forfeited to the Owner.

5. GUARANTY BONDS:

A. The successful bidder, simultaneously with the execution of the contract, shall furnish a Performance Bond and a Payment Bond each in the amount equal to one hundred percent (100%) of the contract price. Bonds shall be on the forms herein provided and shall be issued by a surety company licensed to conduct business in Virginia. Cost of said Bonds is included in the Contract Price. Additionally, the successful bidder will be required to secure 100% performance and payment bonding for the major subcontractors (sitework, masonry, mechanical and electrical).

B. The Contractor is advised that all subcontractors furnishing labor and materials under this contract in excess of two hundred fifty thousand dollars ($250,000.00) will be required to furnish to the successful bidder a performance and payment bond in the amount of one hundred percent (100%) of the work sublet to the subcontractor.

C. The Owner Reserves the right to request documentation from the Surety Company as to its financial capabilities, past experience, etc. In the event that the contractor's Surety company becomes insolvent, bankrupt or in any way is incapable of providing the services and/or security of the Performance and Payment bonds, the Contractor shall within ten (10) days furnish new Payment and the Performance bonds to the Owner from a surety licensed to conduct business in Virginia. Any additional cost in securing new bonding will be the responsibility of the Contractor.

6. PROPOSALS:

A. Proposals, to be entitled to consideration, shall be made in accordance with the following instructions:

1. Before submitting a proposal, bidders must attend the mandatory pre-bid conference at the site, fully inform themselves as to all existing conditions and limitations, and shall include in the proposal, a sum to cover the cost of all items included in the Contract.

2. Proposals shall be made in duplicate upon the Bid Form prepared and furnished by the Architect, a copy of which is bound herein. Proposals shall be completed, including each and every item; bids shall be stated both in writing and in figures. The signatures of all persons shall be in longhand. The complete form shall be without erasures or alterations.

H. A "responsible bidder" shall mean a bidder who has the capability, in all respects, to perform fully the contract requirements, and the moral and business integrity and reliability which will assure good faith performance. In determining responsibility, the following criteria will be considered:

1. The ability , capacity and skill of the bidder to perform the contract or provide the service required;

2. The ability of the bidder to perform the contract or provide the service promptly, or within the time specified, without delay or interference:

3. The character, integrity, reputation, judgment, experience and efficiency of the bidder;

4. The quality of the bidder's performance on previous contracts or services;

5. The previous and existing compliance by the bidder with laws and ordinances relating to contract or services:

6. The sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service;

7. The quality, availability and adaptability of the goods or services to the particular use required;

8. The ability of the bidder to provide further maintenance and service for the warranty period of the contract;

9. Whether the bidder is in arrears to the County, is a defaulter on Surety to the County, or is delinquent on taxes and assessments to the County;

10. Such other information as may be secured by the Office of Design and Construction having a bearing on the decision to award the contract, including, but not limited to:

    a. The ability, experience and commitment of the bidder properly to plan, schedule, coordinate, and execute the work under the contract.

b. Whether the bidder has ever been barred from bidding or found ineligible for bidding on any other projects.

I. Any of the three low bidders who submit more than one (1) name for each trade on the list of subcontractors required in 48 hours may be considered to be a non-responsive/responsible bidder. It is the firm intention of F.C.P.S. to have one (1) bidder listed for each trade.

J. The purpose of paragraphs "G", "H" and "I" is to enable the Director of Design and Construction to select the bid which is in the best interests of the Fairfax County School Board. The ability of the apparent low bidder to provide the required bonds will not by itself demonstrate the responsibility of the bidder.

K. The Office of Design and Construction reserve the right to require from the bidder:

1. Submission of references immediately after the opening of the bid;

2. A list of previous and current projects worked on by the bidder;

3. Financial statements indicating current financial status, prepared in accordance with generally accepted accounting principles, by a C.P.A. licensed to do business in Virginia.

L. Any of the three (3) low bidders who submit more than one (1) name for each trade on the list of subcontractors required within 48 hours may be considered to be a non-responsible/responsive bidder. It is the firm intention of Fairfax County Public Schools to have one (1) bidder listed for each trade.

11. SUBSTITUTIONS:

A. The name of a certain brand, make, manufacturer, or definite specifications is to denote the quality standards of article desired, but does not restrict bidders to the specific brands, make, manufacturer, or specification named; it is to set forth and convey to prospective bidders the general style, type character and quality of article desired. Whenever in specifications or contract documents a particular brand, make of material, device or equipment shall be regarded as a standard. Any other brand, make of material, device, or equipment, which, in the opinion of the Architect or engineer is recognized the equal of the specified, considering quality, workmanship, design and economy of operation and is suitable for the purpose intended, must be accepted.

B. Substitute materials proposed as equals to materials specified must be submitted in writing to the Architect with full substantiating data for evaluation no later than ten (10) days prior to bid opening. Proposed substitute materials which equal or exceed the performance standards of the specified materials in the sole judgment of the Architect will be included in an "approved Substitute Materials Bulletin; to be issued prior to the bid opening date.

12. FORM OF CONTRACT:

A. The Contract will be written on the following form: AIA Document No. A-101 entitled "Standard Form of Agreement between Owner and Contractor:, January 1970 Edition.

13. RETURN OF DOCUMENTS:

A. Plans and Specifications are instruments of service, are the property of the Owner, and shall be returned in good condition within ten (10) days after the proposals are opened. All non-bidders shall be refunded only $100.00 per full set returned in good condition.

14. VIRGINIA FAIR EMPLOYMENT CONTRACTING ACT:

A. During the performance of this contract the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin, except where religion, sex, or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause, including the names of the Contracting agencies with which the Contractor has contracts of over ten thousand dollars ($10,000.00).

2. The Contractor, will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that such Contractor is an equal opportunity employer; provided, however, that notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this chapter.

minority persons; and that the primary power, direct or indirect, to influence the management of this entity shall rest with minority persons or a corporation, partnership, or sole proprietorship in which minority persons collectively own, operate, control and share in earnings of 51 percent or more of such an enterprise.

(2) A minority person shall mean Black; Hispanic, Asian or Pacific Islanders, American Indians or Alaskan Natives; and women regardless of race or ethnicity.

16. APPEAL OF DETERMINATION OF NON-RESPONSIVENESS OR NONRESPONSIBILITY.

A. Any bidder who, despite being the apparent low bidder, is determined not to be a responsive or responsible bidder for this contract shall be notified in writing by the Director of Design and Construction. The written notice shall state the basis for the determination, and this determination shall be final unless the bidder appeals within ten (10) days of receipt of the notice by invoking the Administrative Appeals Procedures. If mailed, written notice shall be conclusively deemed received upon the day following mailing.

B. If, upon appeal, it is determined that the Director's decision was arbitrary and capricious, or otherwise in error, and this Contract has yet to be awarded, the sole relief available to the bidder shall be a finding that the Bidder is a responsive and responsible bidder for this contract.

C. If the award has already been made and performance has begun, the School Board, or its designee, may declare the contract void upon a finding that this action is in the best interest of the School Board. Where a contract is declared void, the performing contractor shall be compensated for the cost of performance up to the time of such declaration. In no event shall the performing contractors be entitled to lost profits.

17. PROTEST OF AWARD OR DECISION TO AWARD:

A. Any bidder may protest the award or the decision to award this contract by submitting a protest in writing to the Director of the Office of Design and Construction, no later than ten (10) days after the award, which ever occurs first; provided, however, that no protest shall lie for a claim that the selected bidder is not a responsible bidder.

The Division Superintendent, or his designee, shall provide for a hearing and the opportunity to present pertinent information, and shall issue a written decision containing findings of fact. These findings of fact shall be final and conclusive, and shall not be set aside unless the same area is fraudulent or arbitrary or capricious, or so grossly erroneous as to imply bad faith. A bidder may not institute legal proceedings until all administrative remedies provided for herein have been exhausted.

19. The Contractor will comply with the Fairfax County Construction's Safety regulations adopted by the Fairfax County Board of Supervisors which is incorporated by reference into these documents.

END OF SECTION 00100

1.06 The Contractor shall substantially complete the project as called for in Section 01010, Summary of Work. It is the intent of the Owner to assess liquidated damages in the amounts shown on the Proposal Form and as indicated in Section 01010 in the event this schedule is not met.

THE COUNTY SCHOOL BOARD OF FAIRFAX COUNTY, VIRGINIA

Kohann Whitney Chairman	Dr. Robert R. Spillane Superintendent	Thomas F. Hanton Director, Design and Construction Services

1.07 Contract documents including Drawings and Specifications will be placed on file at the following locations:

Dodge Reports
8728 Colesville Road
Silver Spring, MD 20910

Construction Today
7325 Steel Mill Drive
Springfield, VA 22150

Construction Market Data
P.O. Box 1260
Landover, MD 20785

Valley Construction News
Route 4, Box 326-A
Charlottesville, VA 22901

Builders Exchange Association
of Virginia
3207 Hermitage Road
Richmond, VA 23227

Plan Room, Inc.
Richmond, Virginia

END OF SECTION 00020

ATTACHMENT 7

AIR SAMPLE TESTS

RENOVATION INSPECTION
FAIRFAX COUNTY PUBLIC SCHOOLS
Office of Administrative and Risk Management Services

LOCATION:	Chantilly High School
DATE:	11/5/91 (Tuesday)
TIME:	11:20 AM - 12:45 PM
*FACTORS EVALUATED:	Particulates, Aerosol/Surface Dust/Odor/Chemical Contaminants
INSTRUMENT:	Casella AMS950 (Particulates)/Photovac Microtip
MONITORING LOCATIONS:	See Attached Map
NUMBER OF MONITORING LOCATIONS:	15

	MONITORING RESULTS				
LOCATION	AEROSOL PARTICULATES mg/m_3	SURFACE DUST	ODOR LEVEL	CHEMICAL CONTAMINANTS (PPM)	COMMENTS
1	0.02	NONE	NONE	0	*Active Construction Area
2	0.04	SLIGHT (H)	NONE	0	(A) Painting Activity
3	0.02	NONE	NONE	0	(B) Tile Installation
4	0.03	NONE	NONE	0	(C) Pipe Installation
5	0.04	SLIGHT (H)	NONE	0	(D) Mechanical System Installation
6	0.03	NONE	NONE	0	(E) Floor Finishes
7	0.05	NONE	SLIGHT (A)	0	(F) Roofing
8	0.03	SLIGHT (I)	NONE	0	(G) Road Surfacing
9	0.05	SLIGHT (I)	NONE	0	(H) Locker Tops
10	0.03	NONE	NONE	0	(I) Construction Entrance
11	0.01	NONE	NONE	0	
12	0.03	NONE	NONE	0	
13	0.02	NONE	NONE	0	
14	0.02	NONE	NONE	0	
15	0.02	NONE	NONE	0	

*Explanatory Notes:

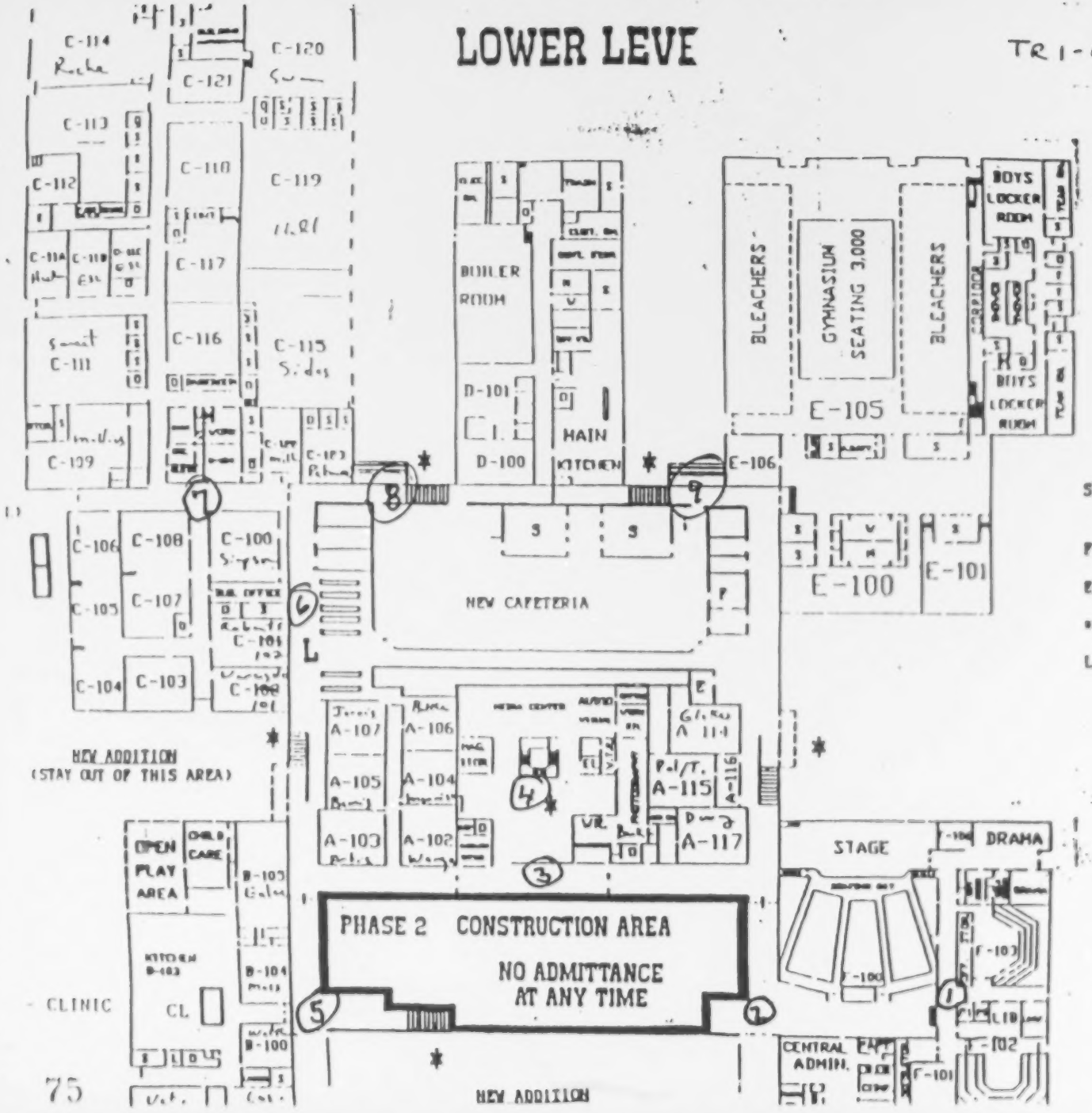
1. The American Conference of Governmental Industrial Hygienists adopted 10 mg/m_3 as the threshold limit value (TLV) for aerosol particulates not otherwise classified. FCPS uses 0.5 mg/m_3 as its action level which is 1/20 of the adopted TLV. Anytime aerosol particulate levels exceed 0.5 mg/m^3 outside the construction area, corrective action is initiated immediately. In areas of continuous occupancy, corrective action is taken anytime the particulate level exceeds the range normally found in a similar facility not undergoing renovation.

2. The word "none" is used to indicate that no excessive surface dust was found on floors or furnishings in the evaluated areas. Anytime excess surface dust is found outside the construction area, corrective action is initiated immediately.

3. Odor levels are based on the sensory perception of the person conducting the inspection and interviews with building occupants. Anytime the odor level reaches unacceptable intensity or character outside the construction area, corrective action is initiated immediately.

4. Indoor air monitoring is conducted using a photoionization detector to ensure the integrity of the construction procedures used to prevent the migration of chemical contaminants from the construction area. When air contaminant levels exceed those normally found in ambient air, corrective action is initiated immediately.

LOWER LEVE



TR 1 - OATES

Tr 2 Sedek
Tr 3 Ar
Tr 4 He[illegible]
Tr 5 Fowler
Tr 6 Donovan
Tr 7 Prowell
Tr 8 Oberdick
Tr 9 Herrin
Tr 10 Ferguson
Tr 11 Friend
Tr 12 Ostinato
Tr 13 Smith
Tr 14 Powell
Tr 15 Maresca
Tr 16 Orchard-Hays
Tr 17 Pechin
Tr 18 Kincaid
Tr 19 Wayne
Tr 20 Merchant

S - SERVING LINES (ENTER SINGLE DOORS OUTSIDE ENDS

F - NEW FACULTY DINING ROOM AND LOUNGE

E - NEW ELEVATOR

* - STAIRWELLS OPEN FOR STUDENT USE

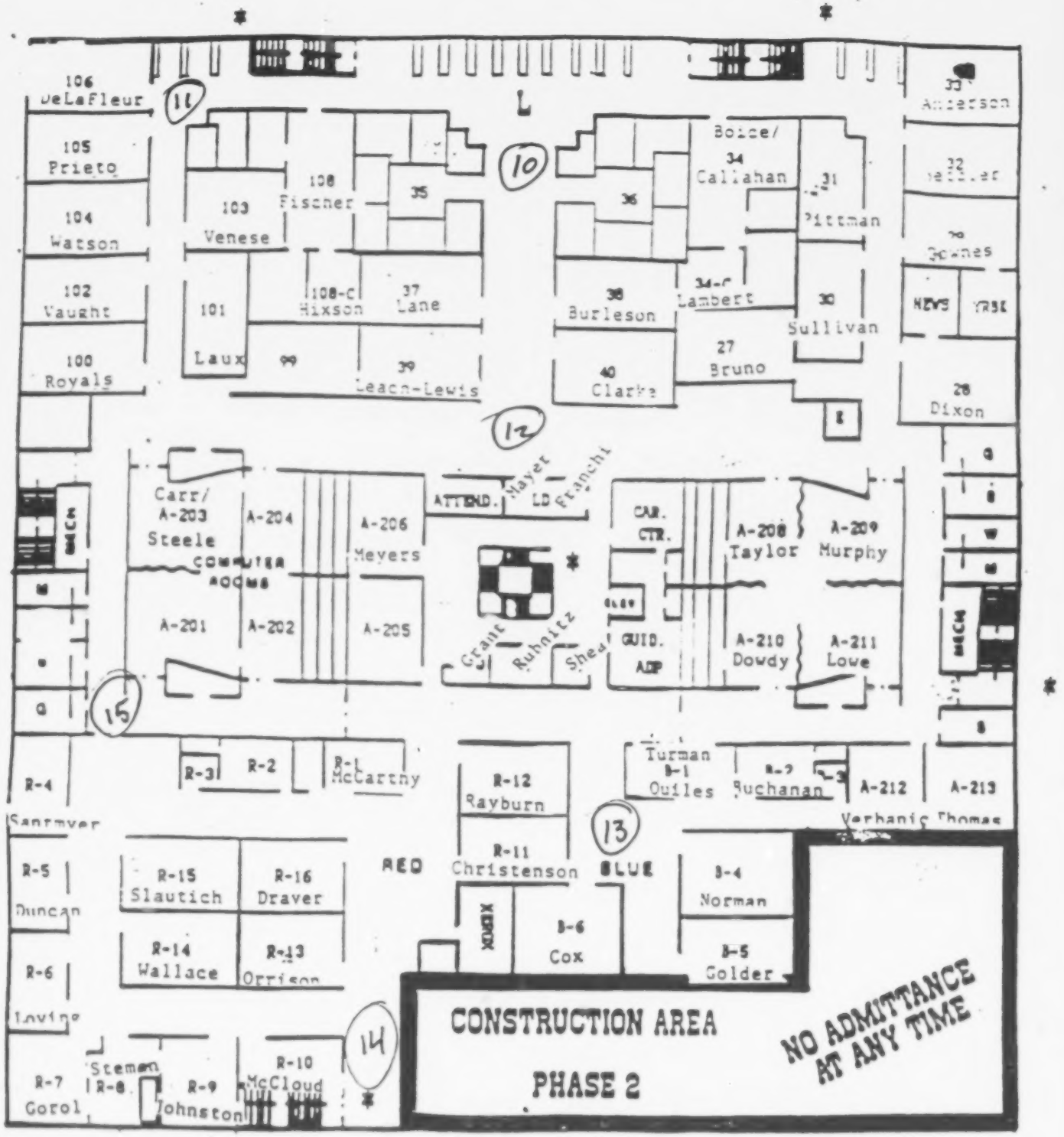
L - NEW LOCKER LOCATIONS (MOST NEW LOCKERS HERE, SOME IN ADJACENT HALLWAYS. OLD LOCKERS IN SAME PLACES. DETAILED MAP WILL BE DISTRIBUTED WITH LOCKER ASSIGNMENTS)

RENOVATION TRAILERS T-1 THROUGH T-20

BEST COPY AVAILABLE

SUBSCHOOL 3 (ORANGE)
SUBSCHOOL 4 (YELLOW)

SUBSCHOOL 1 (RED)
SUBSCHOOL 2 (BLUE)



FRONT OF BUILDING

UPPER LEVEL

E - NEW ELEVATOR

• - STAIRWELLS OPEN FOR STUDENT USE

L - NEW LOCKER LOCATIONS (MOST NEW LOCKERS HERE. SOME IN ADJACENT HALLWAYS. OLD LOCKERS IN SAME PLACES. DETAILED MAP WILL BE DISTRIBUTED WITH LOCKER

BEST COPY AVAILABLE